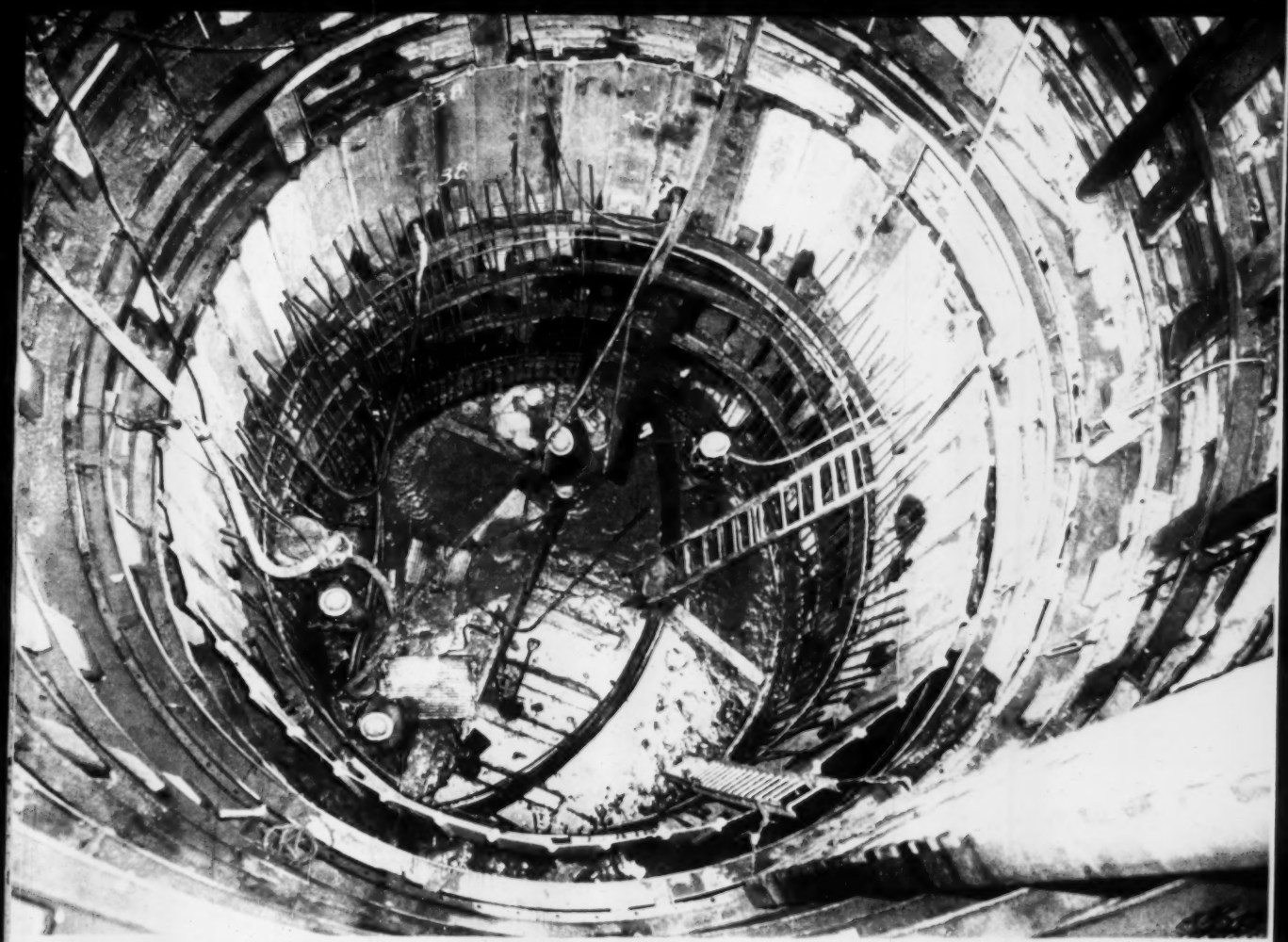
ENGINEERING NEWS-RECORD



Sewer tunneling in unpredict-bl- soil [23]

STEVENS HICG GS
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A McGRAW-HILL PUBLICATION

LARGEST SEARS STORE in South

Architects: Weed, Johnson, Associates; Miami, Fla.
General Contractor: Batson-Cook Co., West Point, Ga. and Jacksonville, Fla.
Piling Contractor: Duval Engineering & Contracting Co., Jacksonville, Fla.

Architect's rendering of completed Sears building.

Supported by Armco Pile Shells

New retail store of Sears, Roebuck & Co., now being constructed in Jacksonville, Florida, will be their largest in the South, having 132,000 square feet of actual sales area.

To support this building, more than 900 Armco Hel-Cor® Pile Shells were mandrel-driven to specified loadings. These shells, supplied in 16 and 13 gage in 12¾-inch diameters, were driven to depths ranging from 10 to 40 feet. The foundation required 20,000 feet of pile shells.

The foundation contractor averaged 11 piles driven per 8-hour day for the entire job, using a mechanically-expanding mandrel with a driving force of 15,000 ft. lbs.

The attractive building, with an exterior of pink Roman brick, is scheduled for completion early next fall.

For more information on Armco Pile Shells, write us. Armco Drainage & Metal Products, Inc., 1999 Curtis Street, Middletown, Ohio. In Canada: Guelph, Ontario.

Looking down into mandrel-driven Hel-Cor Pile Shell at Sears site. Contractor makes visual inspection for alignment before pouring concrete.

ARMCO DRAINAGE & METAL PRODUCTS

Subsidiary of ARMCO STEEL CORPORATION

OTHER SUBSIDIARIES AND DIVISIONS: Armco Division • Sheffield Division • The National Supply Company
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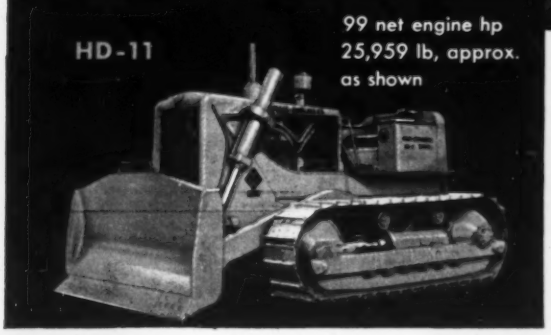
Biggest, most productive 8-ft dozer you can buy...

NEW INSIDE PUSH-BEAM MOUNTING

PORTABLE WITHOUT A PERMIT

THE Allis-Chalmers HD-11 inside push-beam tractor-dozer is the heaviest, most powerful machine near its size. This 13-ton tractor-dozer puts more than 20,000 lb of pull and push ability on the job — 15% more than any other 8-footer on the market.

Because it's within the 8-ft limit, it's portable anywhere without an overwidth highway permit. In addition, you get wide tread and track for better stability; greater structural strength with the only complete box-A frame available; and a big bonus in over-all balance for steep-grade dozing.



Your Allis-Chalmers dealer is ready to spell out the HD-11's advantages in versatile working ability. See the HD-11 on your job—in a working demonstration—*and* convince yourself with visual proof.

Allis-Chalmers, Construction Machinery Division, Milwaukee 1, Wisconsin.

move ahead with **ALLIS-CHALMERS**

... power for a growing world

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Placing of Amdek hollow box girders by means of *Richmond* Lifting Inserts with loads spread and equalized.

Lifting Inserts for Beams & Girders

Increased use of Prestressed Beams and Girders has led to the development of special inserts for lifting these units from casting beds, and placing them in their final position on the job.

Richmond Screw Anchors can be used where the mass of concrete provides sufficient distribution in width and depth to develop the strength.

Tyloops are used where the width and depth are sufficient for proper anchorage, where the unit has to clear reinforcing steel or other obstructions. Tyloops can be made in special shapes.

Extended Coil Lifting Tyscrus and 4 Strut Lifting Tyscrus are especially designed for thin walled Hollow Girders where the load distribution must be placed in the compression area of the prestressed girder.

All of these Lifting Inserts have actual ultimate strengths of at least twice their working loads in concrete at required lifting strength.

SCAB Richmond Screw Anchor & Bolt Assembly.

LT2E Lifting Tyscru with Extended Coil

LT4 4 Strut Lifting Tyscru

LE Lifting Eye Bolt

TL4F 4 Strut Tyloop Flared

For more information about these and other Richmond Lifting Inserts send for the Richmond Data Book on Lifting Inserts. And if you have any specific concreting problems ask us about them.

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EIGHTY-FIFTH YEAR OF PUBLICATION

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ENGINEERING NEWS-RECORD, Vol. 162, No. 6, FEBRUARY 12, 1959

Published weekly by McGraw-Hill Publishing Company, James H. McGraw (1860-1948), Founder. Publication Office, 99-129 North Broadway, Albany 1, N. Y. See panel below for directions regarding subscriptions or change in address. **Executive, Editorial, Advertising and Circulation Offices, McGraw-Hill Building, 330 W. 42nd St., New York 36, N. Y.** Donald C. McGraw, President; Joseph A. Gerardi, Executive Vice President; L. Keith Goodrich, Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, President, Publications Division; Shelton Fisher, Senior Vice President; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator. **Subscriptions are solicited only from persons with identifiable commercial or professional interests in construction and building. Position and company connection must be indicated on subscription orders.** United States subscription rate for individuals in the field of this publication $6.00 per year, single copies 50 cents; foreign $20 per year, payable in advance. Second Class mail privileges authorized at Albany, New York. Printed in U. S. A. Title registered in U. S. Patent Office. ©Copyright 1959 McGraw-Hill Publishing Co., Inc. All Rights Reserved.

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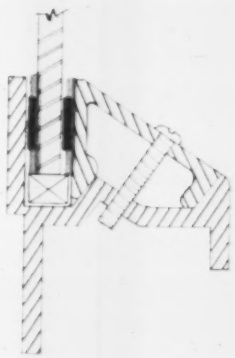
Neoprene, PRESSURESEAL's "core", a synthetic rubber well-known for its ability to "give and take" with the contraction and expansion of modern design.

United, these two proven products provide an *elastic bond* to seal . . . and a *resilient cushion* to absorb pressure loads.



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Peter E. Pellin describes the advantages of the Blaw-Knox Black Top Paver in his specialty—smaller paving jobs—while paving a parking lot. He works his Blaw-Knox unit from five to eight hours daily.

"The Blaw-Knox Black Top Paver is the only machine that met our specifications"

"Our selection of the Blaw-Knox Black Top Paver resulted from several factors. We needed a unit that was well engineered, highly maneuverable, yet relatively inexpensive. The Blaw-Knox PF-45 filled the bill. Its performance and maintenance have been excellent," says Peter E. Pellin, owner of Pellin Paving Company, St. Louis.

"We use it for a wide variety of jobs including parking lots, filling stations, playgrounds and resurfacing. These jobs range from 1,000 to 33,000 square yard class," Mr. Pellin explained. "Our operators were trained in a day. Visibility range is excellent, permitting the operator to work with a minimum of extra help," he adds.

Like many other contractors, Mr. Pellin relies on the exclusive features and engineering quality of the Blaw-Knox Black Top Paver to help him do a wider variety of work more efficiently. Your Blaw-Knox distributor can show you how to put this profit-building equipment to work. See him soon.

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Announcing the Second Annual

ALFRED A. RAYMOND

AWARD

1959

An award of $1,000 will be given annually in honor of Alfred A. Raymond, inventor of the cast-in-place concrete pile and founder of the Raymond Concrete Pile Company. It will be presented to the author of the best paper on "Design and Construction of Foundations of Structures," as selected by a committee of eminent judges. Authors should be either engineering undergraduates, graduate students, faculty, designing and practicing engineers, or those engaged in the field of foundation engineering.

The topic "Design and Construction of Foundations for Structures" is to be interpreted broadly. It covers all phases of foundation engineering from the initial planning to the final installation of a foundation for a structure. Engineers are cordially invited to submit a paper on whatever aspect of foundation engineering or construction of foundations will contribute to knowledge in the field. Manuscripts may deal with foundation test borings, soil mechanics, the theory of foundation design, actual foundation construction, either temporary or permanent, and other related subjects. Papers must be submitted by September 1, 1959.

If you wish to compete for this award, simply write for a complete set of detailed regulations: Dept. E, Alfred A. Raymond Award, Room 1214, 140 Cedar Street, New York 6.

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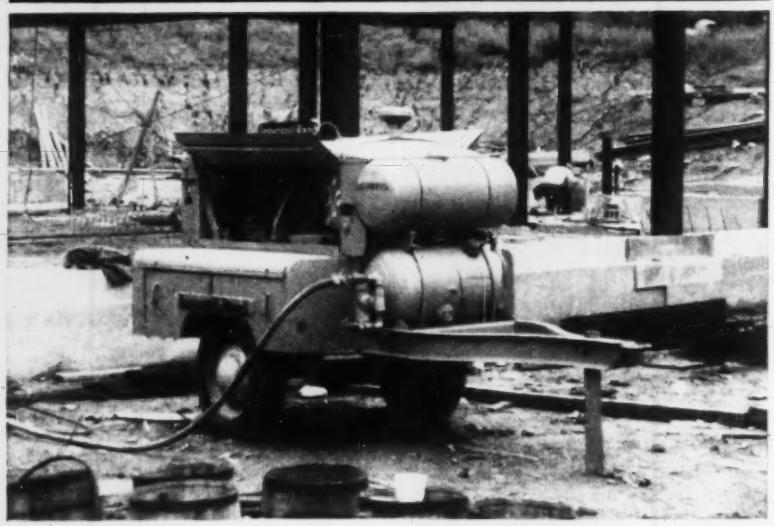

Photo Courtesy Ingersoll-Rand.

All through the construction industry, you find Continental Red Seal engines building prestige for specific makes of equipment. Within the range of industrial engines alone—15 to 260 horsepower—it would be hard to name a type of engine-driven product—compressor, mixer, pump, earth mover—of which one or more of the leading makes do not rely today on Continental power. Every Continental Red Seal is not only built for the job, but backed by parts and service facilities from coast to coast.

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Reader Comment

Who's To Blame?

SIR—As the daughter of one engineer and the sister of another, I read much of your magazine with interest. This month I was particularly struck by your article on "Why Schools Are Not Fire Safe." (ENR, Jan. 22, p. 21) It was well-written, thorough and excellently presented, and it may be very useful in our community, which is still in the transition stage—three new, three old, and one middle-aged school.

However, under the heading "Other factors responsible for existing school problems" you mention apathy of citizenry and lack of understanding on the part of educators. In my experience, the citizenry is not apathetic—the educators and school board are.

One school my children attended had a basement projection room, with one hard-to-reach exit, and the projection equipment was not isolated from the audience room which used the same exit. The two stairwells at opposite ends of the building were not surrounded by fire-resistant materials; they were made of wood thoroughly saturated with years of varnish and oil application. They were badly worn so that falling on them in a panic situation was almost inevitable. Other fire hazards were also apparent, but these were the most obvious.

The PTA fought for extra fire exits, fire doors and the improvement of exits in the movie room for a long time. They met actual resistance on the part of the school board, which said that the State Inspector had passed the school and that fire drills were conducted in an amazingly short length of time. Eventually the PTA forced some improvements, but not nearly enough.

Some time later, the School Board decided to sell this school and the land it stands on. They then announced that the school was considered unsafe!

The board sold the old school and its land to the YMCA, which was going to build a new headquarters on the land. However, the YMCA drive for funds was unsuccessful; so, much to

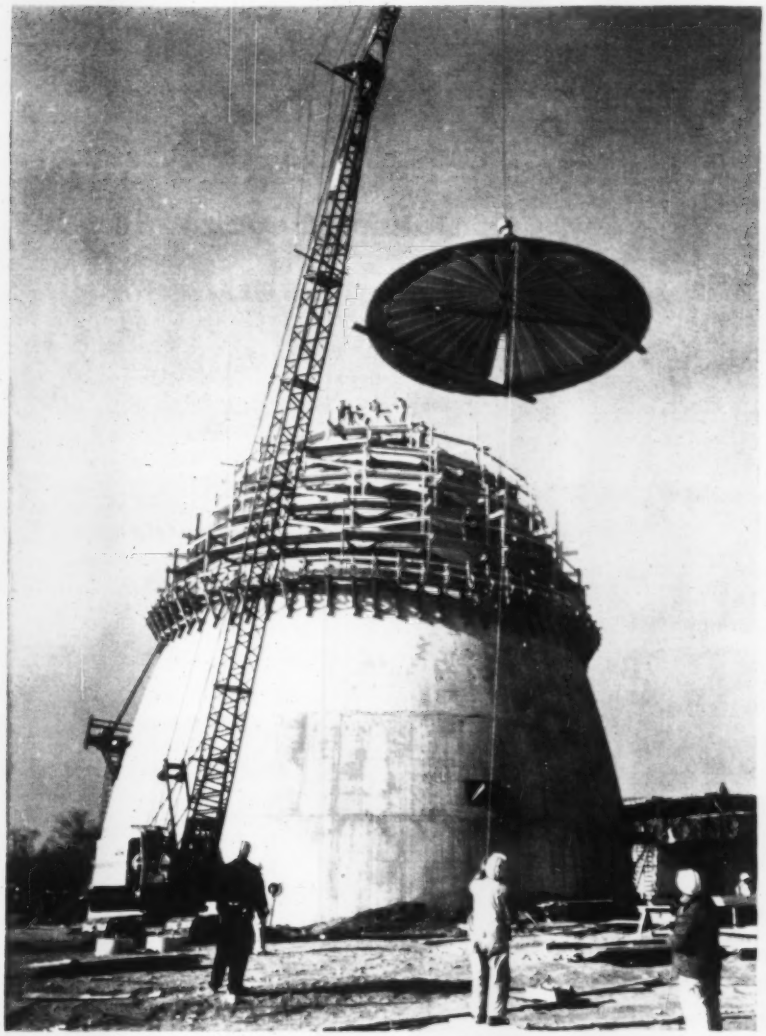
Engineering News-Record welcomes expression of opinions from its readers. Comment should be as brief as possible and pertinent to subjects of current construction importance. Letters should be addressed Editor, Engineering News-Record, 330 W. 42nd St., New York 36, N. Y.

Atomic reactor enclosed with 235 lb. concrete

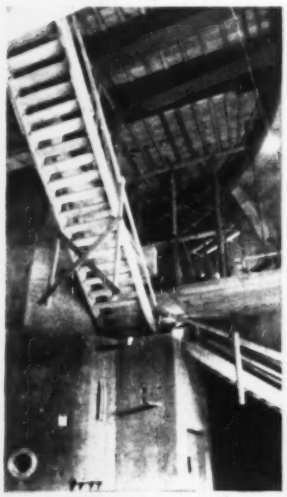
HEAVY CONCRETE, requiring double-strength forms and hardware, is one of the unusual features of this pool-type atomic research reactor, near Princeton University, N. J. The lower 12′ of the pool has walls up to 9′ thick, of 235 lb. per cu. ft. magnetite concrete. This special mix was also used in the "hot cells" of the adjoining lab. The 3′ thick doors of these cells are filled with 300 lb. per cu. ft. concrete obtained by using ferro-phosphorus. Each door weighs 17 tons.

To prevent radiation hazards, the reactor is further enclosed in an airtight, beehive-shaped dome of concrete, 87′ in diameter and 87′ high. For the first 27′ its walls are 12″ thick. This reduces to 8″ for the next 21′. The remaining height is a 3″ thick Gunited crown. Walls were poured in 3 lifts and, because of the shrinkage problem, only one-third of the circumference of each lift was poured at a time. Ingeniously designed forms were reused, with modifications, for all wall pours.

All concrete, including the special 235 and 300 lb. material, was ready-mixed. Proper processing and deliveries that met varying pouring schedules were assured by using truck mixers of certified design, capacity, mixing speed and water control accuracy.

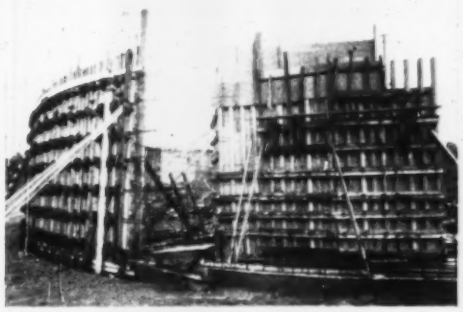


CROWNING THE BEEHIVE: Crane places cap form on dome enclosing atomic research reactor built for AMF Atomics (division of American Machine & Foundry Company). Skidmore, Owings & Merrill, architects; Severud, Elstad & Krueger, structural engineers; Turner Construction Company, contractor. All are New York City firms.



HEAVY CONCRETE REACTOR CORE: Circular hole in reactor is one of the beam tubes for carrying radiation. In dome, above, is revolving 12-ton crane.

FIRST LIFT progresses simultaneously on reactor and dome walls. Because of the hard to handle heavy concrete, reactor wall forms required double 4" x 4" walers and ½" bolts for tie-rods.



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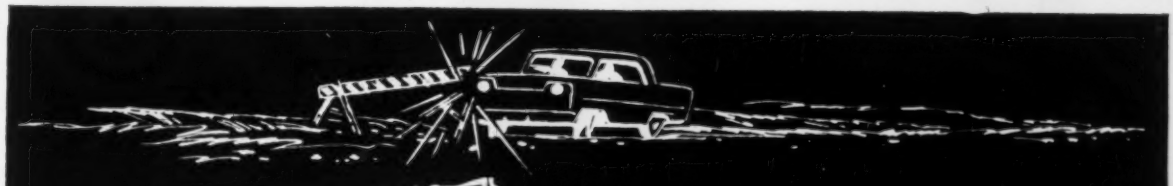

Driver Sues City For Car Damages

A claim for $10,000 against the City of [redacted] was filed yesterday by [redacted] for personal injuries and damages to his car in a mishap Aug. 16 when it hit a barricade.

The car hit a barricade which the claimant says was "owned, directed and maintained" by the city. The barricade had no warning lights.

[redacted] was severely injured and his foreign-make sports type car was damaged extensively, he asserts.

[redacted] claims he was driving west in [redacted] a. m. when an-

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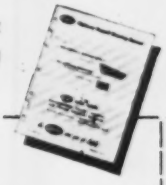

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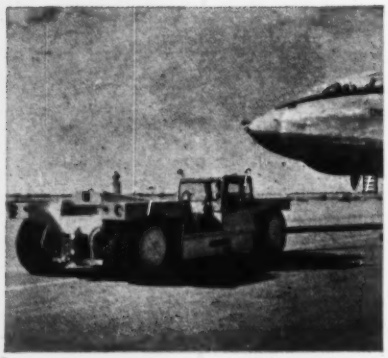
This Electric Arch is one of many working i
timber forests all over the world. Designed spec
fically for logging, it makes full use of its powerfu
Electric Wheels to climb 40 per cent grades, thr
deep mud and over the roughest trails.

Coming down with 30 tons of logs, the Arc
makes profitable use of regenerative electric *brak
ing that never wears out.* Infinite speed selectio

SNO-FREIGHTER puts tremendous power and traction of Electric Wheels to work traversing frozen North. Individually powered wheels and wide-base low-pressure tires keep it going over deep snow, icy footing.



AIRCRAFT TOW TRACTOR'S Electric Wheels develop tremendous torque, have infinite range of power control from dead stop to full speed. Starts are so gentle and smooth they are imperceptible to the eye.

STACKER lifts . . . carries . . . stacks 50 tons. Simple fingertip switches control all movements thru system of electric motors spotted on machine at point of work. No power take-offs or transmissions needed.

5 years of rugged performance prove

Advantages of All-wheel Electric Drive

Since 1953, R. G. LeTourneau, Inc., has been building big, mobile machines with every wheel driven by a unique application of diesel-electric power — the Electric Wheel. These machines are now at work on every continent of the world, proving daily that electric power and control can do more work in less time at lower cost than machines with conventional drive.

An Electric Wheel is essentially a self-contained prime mover — a DC electric motor and gear box mounted in its rim. Each machine's Electric Wheels work as a team, all powered by a diesel-electric generating system. The tremendous torque of this electric drive plus the high flotation of man-sized, low-pressure tires keep these machines rolling over rough ground, steep grades, mud, sand or snow.

Over the years our Electric Wheel System has been developed and perfected until it is now a completely integrated system of efficient, trouble-free *components—all of which we make ourselves*, even our electric motors. This careful development of components has permitted us to design and build *machines to fit specific jobs*, so that these jobs no longer need be limited to inefficient existing machines.

NOW IN EARTHMOVING

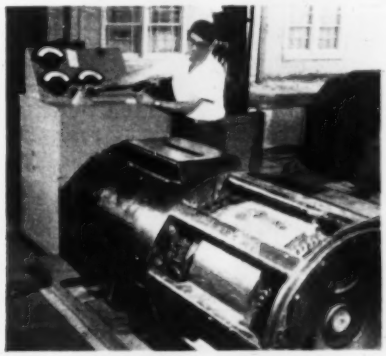
Earthmoving machines with all-wheel electric drive — one of them shown below — have recently been designed and built for the big jobs in construction and mining. For information please write 2395 South MacArthur, Longview, Texas.

from zero to full speed . . . and automatic sharing of power to wheels with best footing are other Electric Arch features which make profitable logging possible in areas that would be inaccessible with conventional equipment. Case histories of Electric Arch job performance prove the contribution this machine has made to logging, and are available on request.

R.G. LETOURNEAU INC

LONGVIEW, TEXAS

TRANSPORTER carries more than 30 tons of logs down rough trails. Regenerative electric braking never wears out . . . maintains absolute downgrade control automatically at any selected speed.



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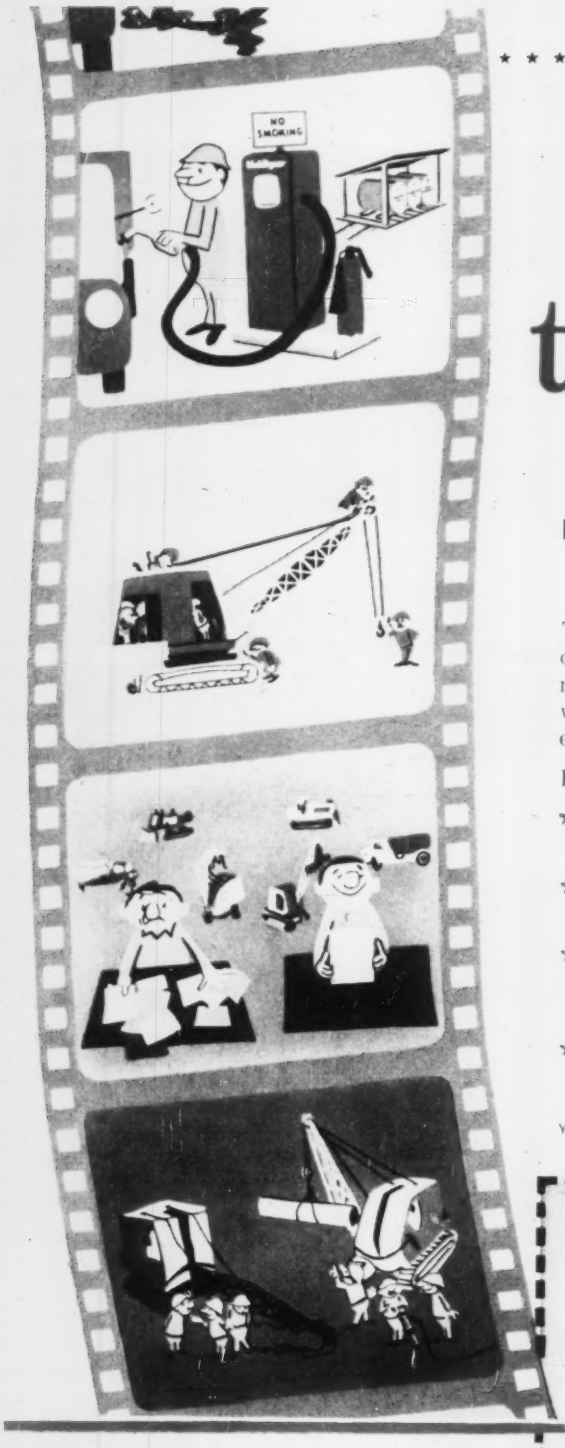

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the amusement of the citizens, the building was once more declared to be perfectly safe for the use of children and the YMCA announced its intention to use it as a temporary headquarters until its fund drive had succeeded.

Since the Chicago school fire, however, inspections have been carried on in all the schools, and the same old building has now been condemned!

This is only an isolated example—Other incidents much like it have occurred in our town, with other school buildings, and I often hear about other towns with the same problem. What we need is more honesty and forthrightness in our officials—plus a good, well-paid engineer who will take an interest in such problems.

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A Derrick is a Derrick

SIR—In the Jan. 22 article, "Rail-Mounted Truck Crane Speeds Steel Erection," reference is made to leap-frogging stiffleg derricks as the alternative to using the truck-crane technique. Are you sure stiffleg derricks were considered or were they guy derricks, which normally are used for such types of steel erection?

PHILIP KROHN,
Chief Engineer,
Boom & Crane Corp.,
Bronx, N. Y.

EDITOR'S NOTE—Mr. Krohn is right. Guy derrick was the alternative.

For Your Calendar . . .

National Society of Professional Engineers, Dinkler-Tutwiler Hotel, Birmingham, Ala., Feb. 18-21.
American Concrete Institute, Statler Hilton Hotel, Los Angeles, Calif., Feb. 23-26.
National Council for Stream Improvement, Waldorf-Astoria, Astor Gallery, New York City, Feb. 23-25.
Second Annual Building Congress on Urban Renewal, National Housing Center, Washington, D. C., Feb. 26.
National Lighting Exposition, Coliseum, New York City, Mar. 1-4.
32nd Highway Engineering Conference, University of Colorado, Boulder, Colo., Mar. 5-6.
American Society of Photogrammetry, Shoreham Hotel, Washington, D. C., Mar. 8-11.
American Railway Engineering Association, Sherman Hotel, Chicago, Ill., Mar. 9-11.
American Society of Mechanical Engineers Aviation Conference, Statler Hilton Hotel, Los Angeles, Calif., Mar. 9-12.
American Congress on Surveying and Mapping, Shoreham Hotel, Washington, D. C., Mar. 11-14.
9th Annual Iron and Steel Conference, Pick-Roosevelt Hotel, Pittsburgh, Pa., Mar. 11-12.
Mississippi Valley Conference of State Highway Departments, Annual Convention, Edgewater Beach Hotel, Chicago, Ill., Mar. 19-21.
21st Annual American Power Conference, Hotel Sherman, Chicago, Ill., Mar. 31-Apr. 2.

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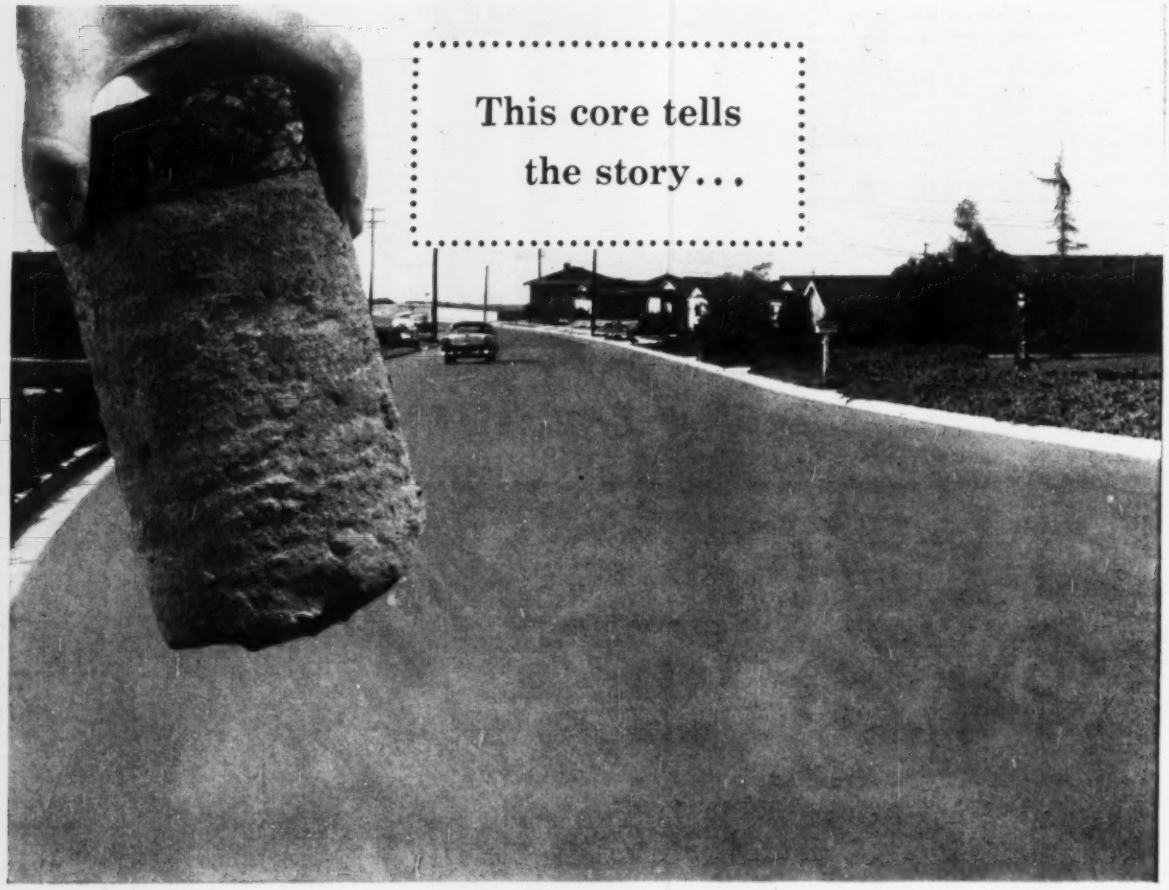

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ENGINEERING NEWS-RECORD

Vol. 162, No. 6 February 12, 1959

Number of copies printed this issue 83,695

CONTENTS

NATIONAL AFFAIRS

What the Labor Bills Really Mean 21
Found: Hidden Arches on Capitol 23
Fast Pace Through Hard Rock 23
Federal Aid to Sewage Works Faces Battle 24
Plan Jells for Delaware River Basin 25
Interstate: What's being Deferred, Why? 27
The New Look in Post Offices 27
San Francisco Road Plans Get the Ax 28
Experts Testify on Atomic Waste Disposal 28
Corps Asks Bid on Atlas Base 32

FEATURES

Sewer Tunneling in Unpredictable Soil 33
Juggling Column Loads to Get Clear Space 44

INTERNATIONAL

Money-Saving Gabions Seal Cofferdam 48

FIELD AND OFFICE

Builder's Bubble Shuts Out Winter Trouble 55
Prize Swimming Pool Is Under Glass 55

NEW PRODUCTS

'Almost Indestructible' Surface 56
Low-Bed Takes the Bumps 56

MEN AND JOBS

Architectural Firm Gears for Future 59

BUSINESS AND FINANCE

State Finances: Where Do They Go From Here? . 84
Housing Bill Lighter, but Safer 86
Grants to Alaska: 'Too Little' 87

LABOR

New Effort to Stabilize Costs 89
AGC Asks Industrial Union Curb 89
Pennsylvania Strike Boomerangs 90

Reader Comment 6
Calendar 13
Washington Observer 19
Unit Prices 66
Materials Prices 68
Construction Reports 70
Statistics, Indexes 82
Editorials 100

Back issues of ENGINEERING NEWS-RECORD *are generally available for the previous six months. Semi-annual indexes will be sent on request.* ENGINEERING NEWS-RECORD *is also indexed in Industrial Arts Index and Engineering Index.*

THE CONSTRUCTION WEEK

MILITARY BUSINESS COMING—Some $1.5 billion in military construction will be put out for bids in the next 18 months. Congress is expected to act this session on a package of authorizations. Appropriation totals haven't been made public, but the final figures will be larger than they have been in recent years.

TOO MUCH CONSULTING?—A New York Senate subcommittee will investigate how, when and why the Department of Public Works buys highway engineering services from private firms. The issue: Should DPW forces be doing a bigger share? About 80% of New York's highway engineering is let to contract—about $66 million worth in the past four years. Competitive bidding is not the question involved here; investigators have already learned such work must be negotiated.

SPAN-RISE AT CAMPOBELLO?—Being promoted on both sides of the border is a new international bridge from Lubec, Me., to Campobello Island, New Brunswick—famous summer home of Franklin D. Roosevelt. The Canadian and New Brunswick parliaments have authorized the million-dollar structure. A bill is now in the Maine Legislature authorizing participation by the state.

GIANT ON CLAY FEET?—Construction engineers in Bombay, India, report that the Russian-engineered, million-ton-per-year Bhilai steel plant is settling seriously. The Russians reportedly designed Bhilai foundation after making just one soil test. They were in a hurry to complete their project ahead of the West German-engineered Krupp-Demag plant at Rourkela in Orissa State. Now variations in the bearing capacity of the substrata are blamed for the settlement in the unfinished plant.

STRUCTURAL STEEL SHAPES UP—Demand for structural steel, which has lagged behind rolled sheet and galvanized steel, has picked up so rapidly in the past week that the February rate of production may top January by 10% to 15%, and reach the highest point in the past three or four months.

MISSISSIPPI CLEANUP—In a sequel to the discovery last year that even the mighty Mississippi is not too big to be polluted, the Metropolitan St. Louis Sewer District has begun a $240,000 study of the problem. Two consulting firms, Horner & Shifrin of St. Louis and Havens & Emerson of New York City, will pinpoint pollution sources and recommend the type and number of treatment plants needed. The study will take 30 months.

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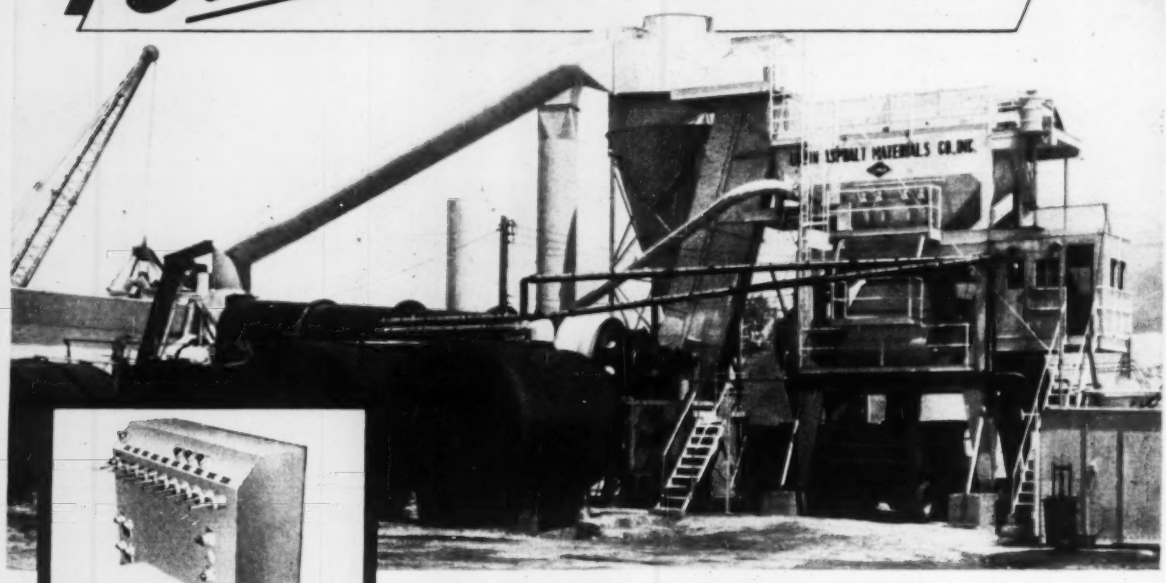

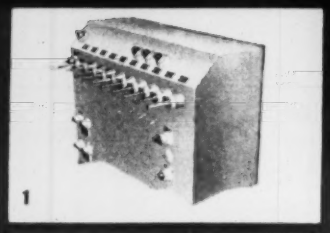

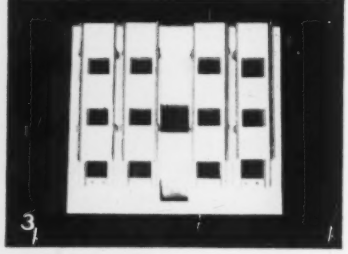

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WASHINGTON OBSERVER

- **Congressional cuts on construction bills may make it harder for Ike to use veto**
- **School bill gets cool reception**

● **Presidential vetoes seem less likely now on housing, airport and labor bills.** That's the real meaning behind newspaper headlines about legislative actions of the past week. Democrats are taking a more conciliatory attitude in their approach. They hope to get substantial legislation enacted in these areas without the necessity for acrimonious battles that always accompany an effort to override a Presidential veto.

The airport bill faces further probable cuts. The Senate passed a $100-million-a-year bill for the next four years—plus a $65-million immediate bonus. Senate Majority Leader Lyndon Johnson, who succeeded in having the program cut from five years to four, also tried to have the annual level of spending reduced. Sen. Mike Monroney (D., Okla.), the bill's chief architect, resisted. Senator Monroney argued that the House probably will vote a level lower than $100 million, meaning ultimate adoption of a lower figure anyhow.

The real airport issue is federal support for terminal construction. Democrats are ready to compromise on the annual federal outlay in money for airport aid, but they demand in return that the White House do some giving, too. They count on Federal Aeronautics Administrator Elwood P. Quesada to get President Eisenhower off his stand that the matching funds should go exclusively to landing strips, taxiways and other facilities—up to the terminal gate.

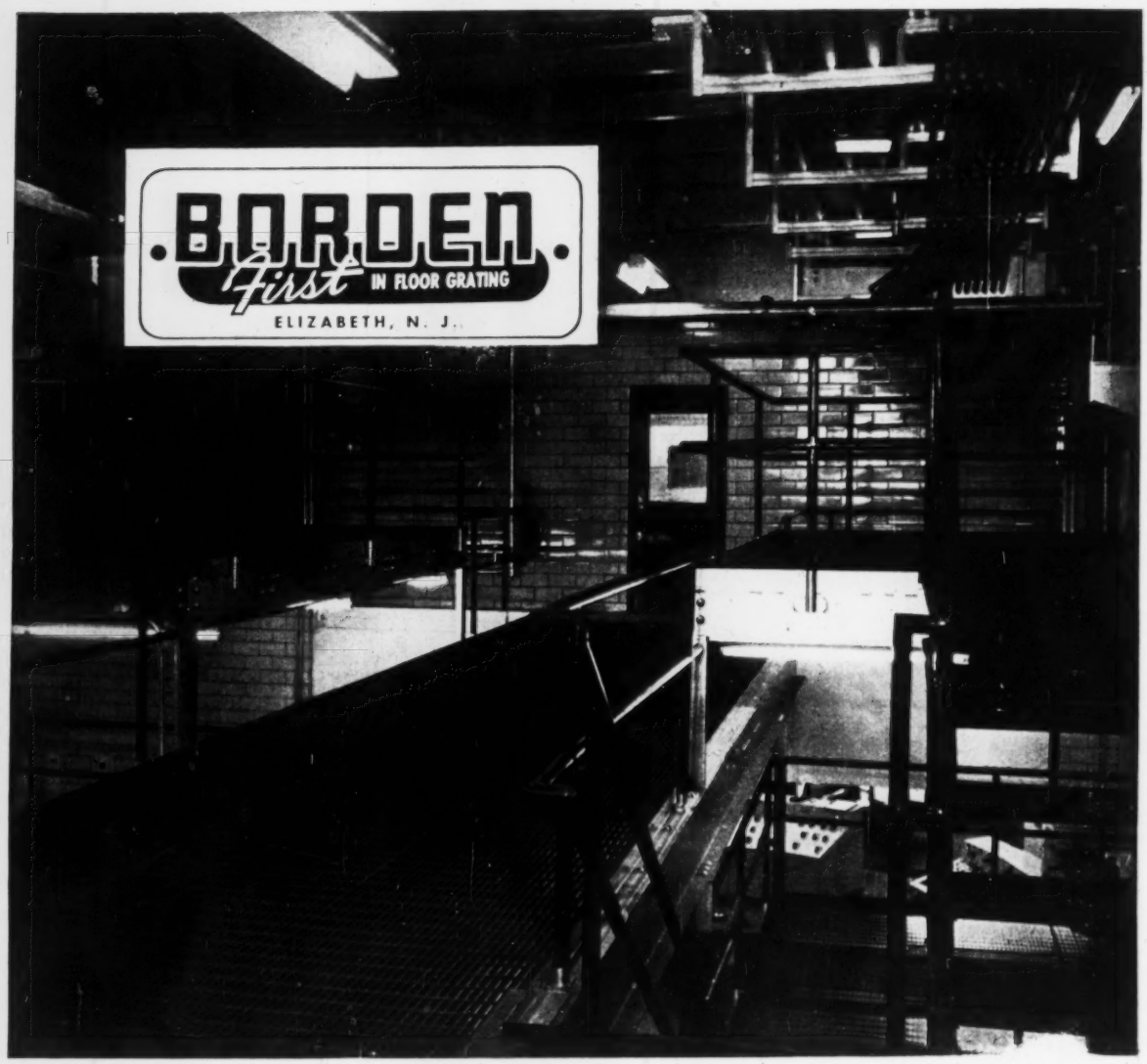
Housing legislation poses a tougher problem for President Eisenhower. He needs, in a hurry, new Federal Housing Administration mortgage insurance authorization. To get it, he probably will have to take fatter slum clearance, college loan and veteran loan programs than he wants (see page 86). Even here, however, note that the Democrats are trying to soften their program's impact on the President's fiscal 1960 budget—his biggest concern at the moment.

Some backstage swapping on labor seems in order. A reform bill with no Taft-Hartley tinkering may be in the works. Sen. John F. Kennedy is willing to scrap his Taft-Hartley amendments. Labor Secretary James P. Mitchell seems willing to do the same with his (see p. 21).

The Administration still wants substantial Taft-Hartley changes. But Secretary Mitchell's chances for getting action are exceedingly slim if he lets the issue be divorced from the reform bill.

● **Eisenhower's school construction program is getting an icy reception in Congress.** The big objection from Democrats: No money would go out for building schools in the next year and a half.

The Administration claims it would help initiate $3 billion worth of classroom construction for public elementary and high schools in the next five years by promising federal assistance, up to 50%, on payment of principal and interest for construction bonds of destitute school districts. For higher education, the Administration plan would guarantee debt service on non-tax exempt bonds of colleges and universities and allow $500 million in grants over a 25-year period for retirement of debt on college classrooms, laboratories and libraries.



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What the Labor Bills Really Mean

- **Labor Secretary Mitchell and Senator Kennedy are both pushing "labor reform" as the primary aim of their bills.**
- **But "reform" is fronting for important Taft-Hartley changes—and some of them are aimed right at the construction industry.**
- **Now there are indications both sides may shift their strategy.**

Charles J. Harding
Associate Editor

The last two years have introduced into the American vocabulary a term of strange and misleading proportions—"labor reform."

That is the tag that hangs on the two big, controversial labor bills now before Congress.

But neither bill is strictly a reform measure for very practical reasons, and the real issue in the current debate is not labor reform at all.

The big issue is the extent to which labor reform legislation can be put to political advantage or be used either to open or shut the door to general labor legislation being pushed or fought by various conflicting interest organizations.

There are two indications of this:

- Insertion of Taft-Hartley Act amendments in what purport to be labor reform bills.
- Current efforts of some to broaden the bills, even to the inclusion of anti-trust and right-to-work provisions.

The result is apt to be a repetition of last year's legislative shambles that ended in no basic reform legislation and in no general labor legislation of any kind except the Welfare and Pension Plans Disclosure Act.

The two bills are popularly known as the Kennedy-Ervin bill (S. 505) and the Administration bill (S. 748).

Sen. John Kennedy (D., Mass.) calls his a "Labor-Management Reform Bill." He says it is designed to "protect workers, employers, honest unions and the general public from the unscrupulous or dictatorial tactics of a few racketeers.

"It is not a bill on industrial relations, dealing with the problems of collective bargaining and economic power," he observes.

The Administration calls its bill, for which Labor Secretary Mitchell is the official advocate, a "Labor-Management Practices Bill." Mr. Mitchell says it seeks to provide "further safeguards against improper practices in labor organizations and in labor-management relations."

The bill, according to President Eisenhower, will "eliminate abuses demonstrated by the . . . McClellan committee, protect the public interest and insure the rights and economic freedoms of millions of American workers."

The descriptions in each case are

Labor Reform: How the Two Bills Differ

The labor reform provisions of the Administration and Kennedy-Ervin bills are substantially the same in purpose and scope. These provisions are known as the anti-racketeering proposals.

Both bills seek to provide safeguards against improper practices in labor unions and in labor-management relations. This is done through reporting, disclosure and minimum standards provisions that are in some instances almost identical in language.

The ultimate impact on unions and employers is about the same.

Each bill regulates to some degree the content of union constitutions and by-laws, the handling of union funds and property, the election, tenure and removal of union officers, the use of union trusteeships, conflicts of interest, dealings with middlemen, union-management collusion and employer interference with the union rights of employees.

Employers are required by both bills to report and keep records on union transactions that create conflicts of interest or that interfere with the rights of employees. Reports required from unions and employers become public documents. Both bills call for a Commissioner of Labor Reports.

The two bills contain a number of procedural differences and diverse enforcement and penalty provisions. The Administration's is tighter, more carefully drawn, and has stiffer penalties.

For example, the Administration measure would impose on union officers handling union funds and property the legal liabilities of trustees, would give the Secretary of Labor more court backing in enforcing the law, would permit him to deny offending unions and employers access to the NLRB or cut off the union's federal income tax exemption, and would make his administrative decisions subject to court review. The Kennedy-Ervin bill does none of these.

Both bills require the Secretary of Labor to enforce the labor reform provisions. He is given broad powers of investigation, including the right to issue subpoenas. Under the Administration bill, he may set up Union Procedures Examining Boards to assist him. The other bill doesn't have this.

Both bills impose criminal penalties on union officials and employers for refusal to file reports, for false reporting, for falsification and destruction of records and for bribery and embezzlement.

The Kennedy-Ervin bill, unlike the Administration's, urges unions and employer associations operating on a nationwide or industrywide basis to adopt codes of ethical practices and sets up an Advisory Committee on Ethical Practices to advise the Secretary on the administration of the law.

Taft-Hartley: How the Bills Differ

1. Union Representation

Administration Bill . . .
Excepts the construction industry from representation election procedures. NLRB may certify a union as bargaining agent without a vote of employees . . .

- If jointly requested by the employer and the union, and . . .
- If a prior collective bargaining relationship has existed and . . .
- If the union's majority status is not challenged by the employees.

Kennedy-Ervin Bill . . .
Tries to do the same thing, but through pre-hire contracts. Allows a union to negotiate a contract even though the union's majority status hasn't been established by NLRB. Such contracts may . . .

- Contain a seven-day (instead of 30-day) union shop clause, except in right-to-work-law states.
- Give unions referral rights.
- Provide for employment eligibility based on apprentice training, experience qualifications, or seniority.

2. Secondary Boycotts

Administration Bill . . .
Gives construction unions one break, but closes some loopholes.

- **The break:** Where several contractors are working at the same site, a union that has a dispute with one contractor over wages, hours or working conditions can strike all contractors. (This reverses the Denver Building Trades case.)
- **But** the bill tightens the laws by banning boycotts brought about by coercion of employers as in hot cargo cases or by coercion of individual employees.

Kennedy-Ervin Bill . . .
Doesn't cover the secondary boycott problem. Senator Kennedy would leave this to separate legislation devoted exclusively to Taft-Hartley.

3. Picketing

Administration Bill . . .
Bans picketing for representational or organizational purposes where another union holds bargaining rights; where there is evidence the employees don't want to be represented by the picketing union; and where picketing has proven futile.

Kennedy-Ervin Bill . . .
Would not ban representational or organizational picketing.
Would ban picketing set up to shake down an employer.

4. Negotiated Employer Contributions

Administration Bill . . .
Affirms the legality of employer contributions to trust funds for apprentice or other training programs.

Kennedy-Ervin Bill . . .
Does the same, but is limited to the construction industry and includes contributions to trust funds for pooled vacation benefits.

5. No-Man's Land

Administration Bill . . .
Allows NLRB to continue refusing to assert jurisdiction over small labor disputes. But authorizes state agencies to step in where NLRB won't.

Kennedy-Ervin Bill . . .
Directs NLRB to assert its full jurisdiction. Gives the states no more jurisdiction than they now have.

6. Miscellaneous

Administration Bill . . .

- Makes NLRB bi-partisan (only three members from one party).
- Requires non-communist affidavits from employers.
- Permits NLRB to hold a certification election without prior hearing.

Kennedy-Ervin Bill . . .
Has no similar provisions, but . . .

- Extends the right to unionize to more supervisors.

(Both bills would give economic strikers the right to vote in representation elections.)

. . . Construction is

gross understatements. Each bill contains a long list of rather substantial, non-reform Taft-Hartley Act amendments, some of which are specifically tailored to meet the peculiar needs of the construction industry.

For those who are interested in some form of labor reform (anti-rackets) legislation, the labor reform sections of each bill are similar enough to prevent any permanent legislative stalemate.

You can find support for the view that much of the current criticism is inspired more by politics and emotional differences than by substance.

Democrats have called the Administration bill too tough on labor. Democrats don't like the provisions putting loss of income tax exemption and denial of access to the National Labor Relations Board among the penalties.

Republicans say the Kennedy-Ervin bill doesn't go far enough.

The big fight is—and will be—over the Taft-Hartley amendments. Although both bills hold changes wanted by one or more pressure groups, they satisfy very few by trying to please too many.

The basic trouble is that almost any Taft-Hartley amendment is so controversial that once the gate to that field has been opened, the path ahead is endless and treacherous.

In a general sense, the Taft-Hartley provisions in the Kennedy-Ervin bill are considered by management to be too pro-labor; in fact, the bill has been endorsed by both the AFL-CIO and the AFL-CIO Building Trades Department partly because of these amendments.

Unions, on the other hand, regard the corresponding Administration provisions as anti-labor, singling out for particular attack the provisions that place additional curbs on picketing and on secondary boycotts.

Management groups, meanwhile, variously claim that the proposed amendments in both bills are too superficial and that vandalism, compulsory unionism, labor monopoly and political power, featherbedding and restrictive practices of industrial unions must all be covered.

Special problems are also created for the construction industry, for which, most observers agree, the Taft-Hartley Act has always been inappropriate. Some of the current proposals—such as those relating to pre-hire contracts, certification without election and common site boycotts—seek to alleviate this problem. But the proposed solutions in both bills fall right into the middle of bitter differences of opinion within the industry itself. While groups like the Associated General Contractors of America and the National Association

right in the middle of the Taft-Hartley debate

of Home Builders, for example, are dead set against the pre-hire contract, the building trades unions strongly oppose the alternative union certification without election.

Why, then, has labor reform legislation been exposed to the pitfalls of Taft-Hartley amendments?

Senator Kennedy has two explanations. He says some of his proposals are a necessary part of labor reform and the others—such as those dealing with economic strikers and the building trades—were generally approved last year, even by Mr. Mitchell. Senator Kennedy wants to defer debate on the "controversial" Taft-Hartley changes until the reform bill is passed.

The Administration, in a somewhat more candid vein, says its proposals are "needed adjustments" in the law to protect the public and to give some relief to the construction industry. The resulting package, it claims, is "complete and effective" legislation not a "piecemeal program."

A better explanation, perhaps, is that it may not be possible to get any Taft-Hartley amendments without tacking them on to something that has popular appeal—like anti-rackets legislation. For over 10 years, no Congress has been able to make a dent in the law—and the pressure for changes has been persistent and intense.

The package strategy from a political point of view also helps those on Capitol Hill to make or keep "friends," to discharge political obligations and to drum up future votes. And in this area, neither labor, management, the public nor the central figures concerned are unmindful of the fact that Senator Kennedy and Secretary Mitchell may play leading roles in the 1960 elections.

Aside from last year's debacle, there are new and mounting indications that this "package" strategy will not work.

For construction, the most significant blast came from AGC last week.

Frank Rooney, AGC past president and present chairman of the association's Labor Committee, categorically denounced the inclusion of any Taft-Hartley amendment in any labor reform bill.

In testimony before the Senate Labor Subcommittee, he said the AGC endorses "the general principles directed solely at labor reform in both the Administration and Kennedy-Ervin bills." All Taft-Hartley amendments, he declared, should be deferred "for later consideration by the Congress after a thorough study by the technical advisory group to this committee," even though the AGC supports the certification without election, apprentice training and tighter boycott provisions of the Administration bill.

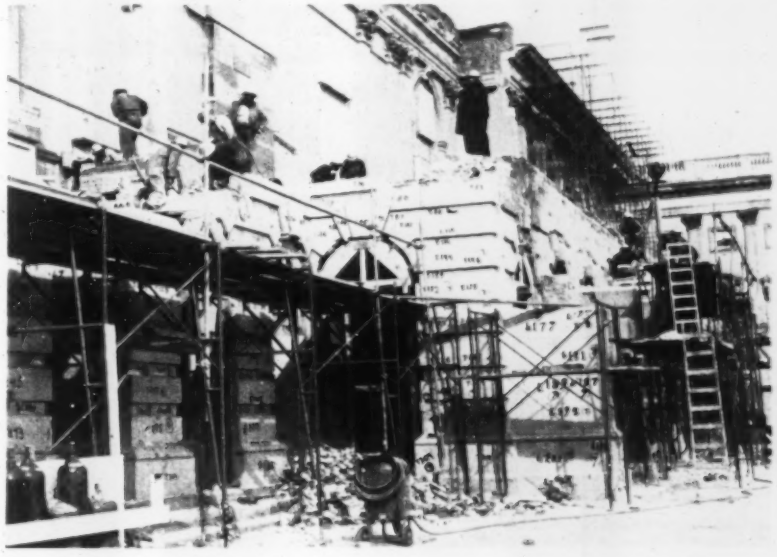
Meanwhile, the U. S. Chamber of Commerce has renewed its claim that any "reform" legislation must go beyond "union democracy" and cover all the legal immunities and privileges that give labor its "economic," "political" and "monopoly" power. The National Association of Manufacturers has resumed the same approach, with special emphasis on putting labor under the anti-trust laws and under a national right-to-work law.

Now there is talk of a compromise. Senator Kennedy and Sen. Sam Ervin (D., N. C.), his co-sponsor, say they would be willing to drop their Taft-Hartley proposals if this would assure passage of reform legislation.

But the AFL-CIO has served notice it may withdraw its support of the bill's reform provisions if it can't get the Taft-Hartley changes now in the bill.

The Administration may be growing skeptical of package legislation. Mr. Mitchell has indicated a willingness to drop Taft-Hartley changes from the reform bill. But he wants a firm commitment that a Taft-Hartley bill will be brought to the Senate floor later.

This may improve the chances for reform legislation. But it would seem to weaken the chances for any basic changes in Taft-Hartley.



Found: Hidden Arches on Capitol

Workmen dismantling the east front of the U. S. Capitol came upon this series of arches, which had been hidden since about 1822. An outside stairway was built after the arches were completed, covering them over until the current expansion project brought them to light.

Fast Pace Through Hard Rock

Tunnelers are really moving fast through hard granite in California's Sierra Nevada. Two current jobs stand out—the City of San Francisco's Cherry power tunnel and Southern California Edison's Mammoth Pool tunnel.

On the Cherry tunnel's two 11½-ft-dia headings, Guy F. Atkinson crews, under Project Manager Earl Walsh, advanced 900 ft one week. They averaged about half that over the 29,400-ft length of the job. Their best day in one heading was 100 ft. Drill jumbos on the job mount five drills.

The Atkinson workers holed through late in January. They are now three months ahead of schedule on the $8-million job.

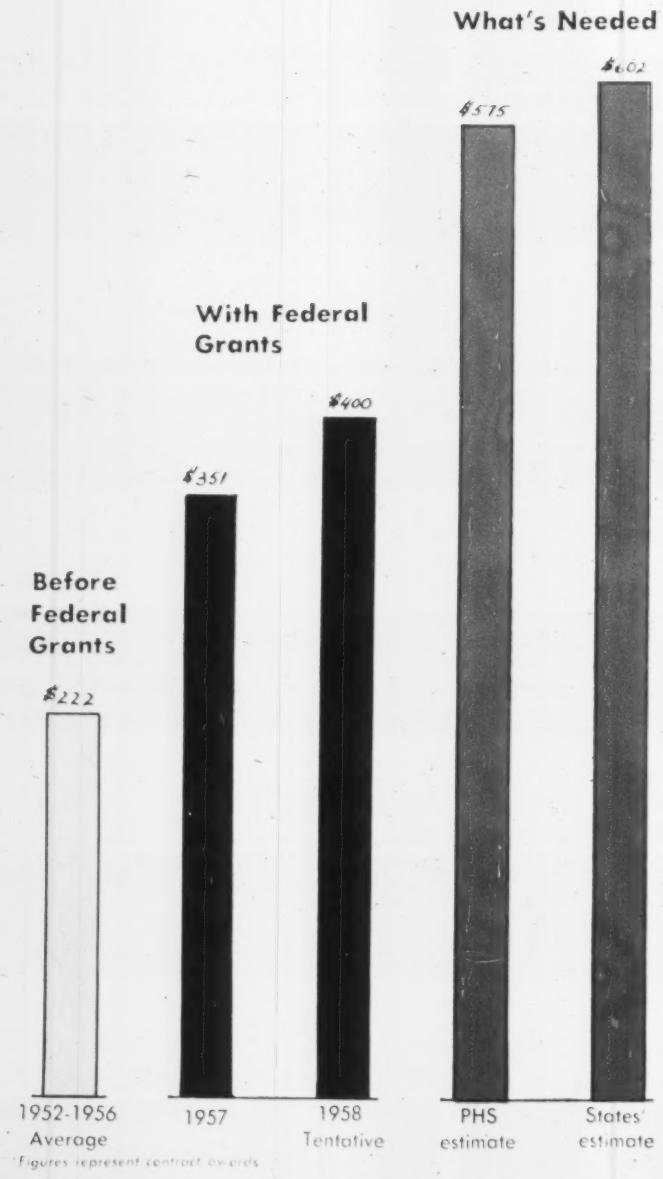
On the Mammoth Pool tunnel, Utah Construction Co. crews, under Project Manager Boyd Paulson and Superintendent Paddy O'Dowd, came close to setting a world record the last week of January. They advanced one heading of the 21-ft-dia horseshoe tunnel 390 ft in six days, an average of 65 ft a day.

Utah is working the Mammoth Pool tunnel from five headings with four jumbos, each mounting 11 drills. The company's contract totals $12.5 million.

Sewage Works Double, But Federal

Actual vs. Needed Construction of Sewage Treatment Works

(Annual rates in millions of dollars*)



*Figures represent contract awards

The federal grants program authorized to stimulate needed sewage treatment construction is at a crossroads in its short but very successful life.

The Administration wants to end the program in two years.

The states, on the other hand, want to keep it going and increase the federal appropriation.

President Eisenhower has asked Congress to reduce appropriations for the grants program (Public Law 660) from $50 million to $20 million for fiscal 1960 and to discontinue all federal aid in 1961. Under the President's proposal, the states would assume full responsibility for construction of sewage treatment plants in fiscal 1961.

The President made a similar proposal last year, but Congress went ahead and appropriated $45 million. This year there is even stronger support among the states for the grants program. They want the appropriation figure upped to $400 million a year.

In a little over 2½ years since the law went into effect, sewage works construction across the nation has nearly doubled. In the preceding five-year period sewage works construction averaged $222 million annually. In 1957, as the program began to take hold, construction awards jumped to $351 million. In 1958 awards reached an estimated $400 million—the highest figure ever (see chart). ENR's total of $618 million for 1958 includes contract awards for all sewage construction.

Even $400 million is not considered high enough, however. The Public Health Service estimates the construction rate must hit $575 million annually for the next eight years if the nation is to catch up with the backlog of needed pollution-abatement facilities and keep up with pollution loads added by population increases. PHS surveys of the states reveal they feel an even higher figure is needed—$602 million annually.

The Administration's move to end the federal-aid program is based on its desire to get the federal government out of activities it feels the states can do just as well by themselves.

However, the President recognizes the need to encourage sewage works construction. He proposes that the federal government relinquish part of its revenues from the federal telephone tax. The states would then impose their own taxes on local phone calls to finance sewage-aid programs.

But state officials see trouble ahead for this idea. Few feel their legislatures would commit such tax revenues to sewage aid.

Also, there are states restricted by law from using such taxes for other than

Aid Faces Battle

school construction, old-age pensions and the like.

Nine measures have been introduced in Congress proposing changes one way or the other in P.L. 660.

One of the strongest bills opposing the President's proposals has been submitted by Rep. John A. Blatnick (D., Minn.), one of the original sponsors of P.L. 660. He wants the federal appropriation increased to $100 million.

His recommendations have the backing of a large number of state health officials. A recent poll of the nation's 52 state and territorial health officials indicates three-quarters of them favor doubling the grants.

Many of these same officials were among the doubters when the grants program was first proposed in 1956. But the program's success helped change their minds.

• **How program stands**—At the end of the year, 1,337 projects had been approved for federal aid. Of these, 356 have been completed and 578 are under construction.

Construction grants to communities reached $113.7 million. An additional $481 million of local funds was raised to construct sewage projects costing an estimated $595 million—a ratio of four local dollars to every federal dollar. In 1958, one-third of all sewage construction projects started received federal grants.

Eighty percent of the 1,337 projects approved are new treatment facilities for communities previously discharging raw or inadequately treated sewage. The remaining projects are improvement of existing facilities and construction of interceptor and outfall sewers.

Fears that the program would result in another enlargement of federal power have not materialized. The Public Health Service, charged with running the program, has kept hands off in deciding where the money will be spent. In so doing, PHS cut the administrative costs of the program to about 1½% of the appropriations.

The states themselves are calling the shots on where the money goes. They have set up a system of priorities to judge the applications from the communities for grants. The systems vary from state to state but they fall into two main patterns:

• Most states assign a certain number of points to the application, depending on the degree of need demonstrated. Communities with the most points get priority. The rest must wait until more money becomes available.

• Some states figure on the basis of river-basin requirements. The aid is concentrated in communities within the river basins judged most in need.

In addition to applications for which grant offers have already been made, 620 applications by communities for aid are being processed in the regional offices of the PHS and in state agencies.

PHS feels more applications would be made if more money were available. Several states are now discouraging new applications because they realize there isn't enough money to go around.

Right now total applications approved, in process, or under preparation request grant funds 50% in excess of existing appropriations.

Representative Blatnick also would permit reallocation of funds previously earmarked for states that haven't been able to use them. This would also spur new applications from states with a build-up of requests.

Reasons why some states haven't taken full advantage of the allocations offered them cover a wide range. Wyoming is in the happy situation of not needing the money, since the state's backlog of needed construction will be completely reduced by the end of the year. Several states and territories have not been able to use the allocations because they lack a program of pollution abatement or their organizations are not healthy enough to run one.

Nebraska is an example of what a state with an aggressive pollution-control program has been able to do with the help of the grants program. Compared to the average in the five years prior to the grants program, the state in 1958 had five times the dollar volume of construction work and two-thirds more in projects under way.

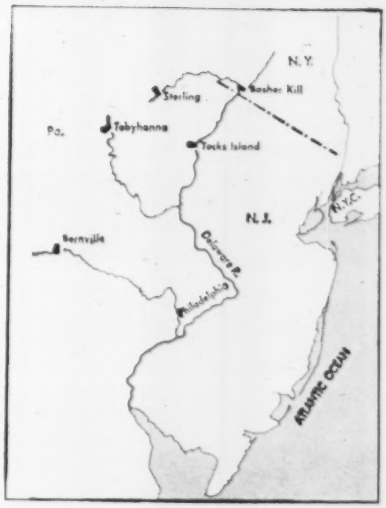
If Congress goes along with the President's recommendations, the effect of the reduced appropriations won't be immediately apparent. The lag between the appropriations and contract awards will put off the decline until 1961.

Some officials feel that with the end of the federal grants, the rate of sewage construction will fall lower than it would be if there had never been a grants program. Communities may hold back new construction after the grants end in hope that the success of the program will lead to its renewal.

Coming Next Week . . .

ENR's 84th Annual Report and Forecast Issue.

Theme: The challenges ahead for construction men.



Delaware Plan Jells

Corps names five sites on main stem and tributaries

Delaware River Basin development would include construction of 21 dams in the next 50 years under a preliminary plan completed by the Philadelphia District of the Corps of Engineers.

Five projects (see map) to be completed by 1980 as the first phase of the over-all development are:

• **Tocks Island**—A multipurpose dam and reservoir on the Delaware River seven miles above Delaware Water Gap.

• **Sterling**—Flood-control dam and reservoir on Wallenpaupack Creek. Detailed study and negotiations may show that the acquisition of positive control over equivalent flood-control capacity in Lake Wallenpaupack would be a practicable substitute.

• **Tobyhanna**—Multipurpose dam and reservoir on the Lehigh River, 15 miles from Wilkes Barre, Pa. Hydropower potentials of this project, including pumped storage possibilities, will be studied for eventual exploitation.

• **Berneville**—Multipurpose dam and reservoir on the Tulpehocken Creek, 10 miles northwest of Reading, Pa.

• **Basherkill**—Power project on Neversink Creek, some five miles northeast of Port Jervis, N. Y.

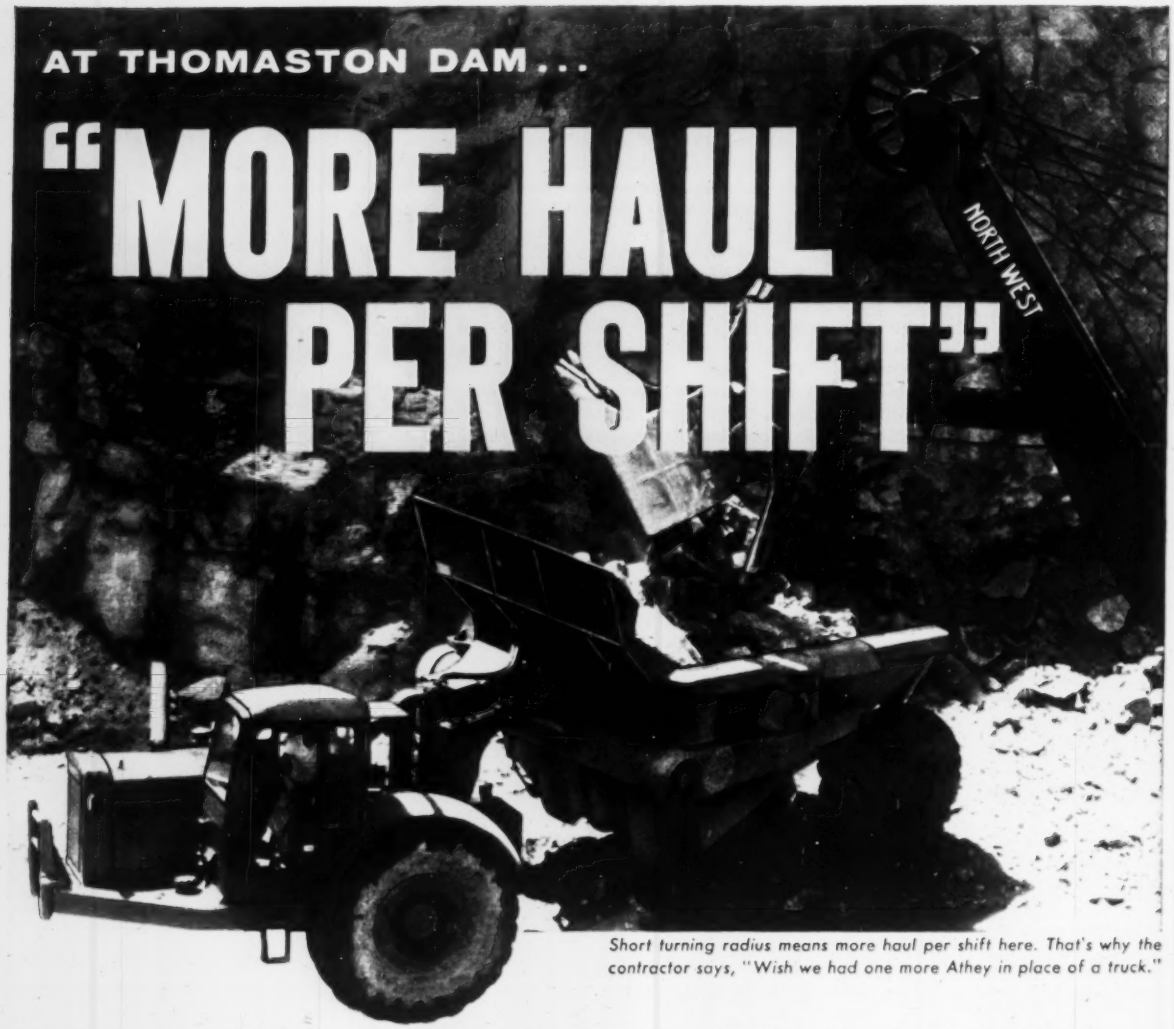
The other 16 dams would be built in the second phase—1980 to 2010.

The report is the outcome of a three-year study authorized by Congress after the disastrous floods of 1955. Cost studies are now under way.

A previous plan for comprehensive development of the Delaware failed. The "Incodel" scheme, promulgated by the Interstate Commission on the Delaware River Basin in 1950, died for lack of agreement among the states involved.

AT THOMASTON DAM...

"MORE HAUL PER SHIFT"



Short turning radius means more haul per shift here. That's why the contractor says, "Wish we had one more Athey in place of a truck."

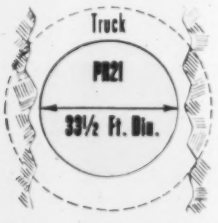
Three of the huskiest workers at the Thomaston flood control dam in Connecticut are Athey-Cat rear dump trailer units. These PR21-DW21's average 18 cu. yds. a load—but 22 cu. yds. is not uncommon. They make 33 trips a day . . sprint up a 14% grade without breaking stride. Their toughest assignment? Hauling rock, gravel and clay out of a narrow cut. Other equipment had to back up to the shovel here—and lost time. But the Athey-Cat team drives in AND out . . . a complete trip takes just 14 minutes, including 800 ft. haul and 800 ft. return. Oneglia & Gervasini, contractors at Thomaston, say they can count on a full 6-day work week from each unit with no downtime.

Want to cut per-yard hauling costs? See your Athey-Cat dealer—or write us direct—for performance reports and folders on the PR21.

Athey

PRODUCTS CORPORATION
5631 West 65th Street
Chicago 38, Illinois

PR21
REAR DUMP TRAILER



33½-ft. turning diameter lets Athey-Cat unit take the short cut in a narrow cut and leave trucks far behind.

Big rocks are no problem—PR21 has 22 cu. yd. capacity and easy-loading body design.

Interstate: What's Being Deferred, Why?

When Congress looks over progress in the interstate highway program in the next few weeks, it will be interested in these questions:

- Why are some of the new roads being built for present-day traffic needs instead of for 1975 needs?
- How much work is being deferred? And how does the plan work?

The questions arise because of this section of a progress report (ENR Feb. 5, p. 26) sent to Congress last week by Secretary of Commerce Lewis Strauss:

"While the goal for the system is its ultimate adequacy for the traffic forecast for 1975, the pressing need is to cope with present-day traffic. The objective has been to complete as much mileage as possible, adequate for current needs and to defer improvement to 1975 standards until subsequent stages of the program. Any other approach would have resulted in unneeded present improvements at the expense of those which are urgently needed."

Here is how Federal Highway Administrator Bertram D. Tallamy explains the matter to ENGINEERING NEWS-RECORD:

About 85% of new-road mileage put down since the 1956 Highway Act was passed is built to 1975 traffic needs. The 15% constructed to meet only present-day traffic is primarily two-lane highways that later will be enlarged to four-lane, reversible-traffic roads.

In all cases, Mr. Tallamy says, the rule used in deciding to build to present-day needs or those of 1975 is whether the highway can be expanded later without interfering with flow of traffic. What is held back mainly are additional traffic lanes and interchanges.

Right-of-way purchases, surveys, designs and other such basic steps are always made to 1975 traffic-needs level.

There is no fixed policy as to what standard a state must use to build its new roads. Generally, projects approved by the Bureau of Public Roads must meet traffic needs some 8 to 10 years ahead, Mr. Tallamy says. It depends a lot on the over-all roadbuilding progress of individual states, he adds.

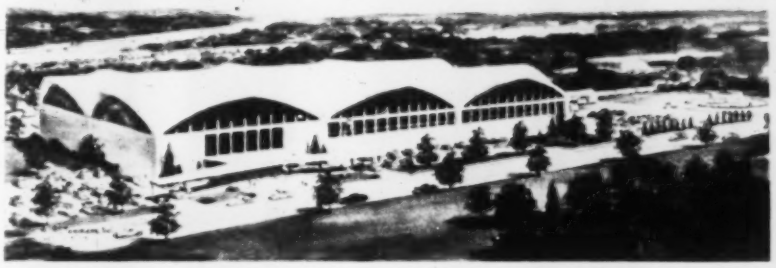
States with roads that aren't up to 1975 standards must start updating them in sufficient time to get a completed interstate network—at 1975 standards—by 1975. The latest that a state can start the upgrading is 1968, the last apportionment year under the present program, Mr. Tallamy says.

Some highway engineers say the present policy will result in higher costs in the long run.

But Mr. Tallamy claims there is economic benefit in doing it this way. And benefit to highway users must also be considered, he says. They are getting more roads sooner than would be possible if all roads were built to 1975 standards right from the start.

BPR has already denied several states permission to build some of their interstate projects to 1975 standards.

Nevada, Florida and Illinois wanted to build more interchanges on some of their mileage than the bureau feels is necessary at the present time. BPR turned thumbs down. Washington State wanted to build reversible lanes in a project at Seattle. But the bureau didn't want the extra lanes built now.



The New Look in Post Offices

The Post Office Department has contracted with Intelex Systems, Inc., of New York City for a Providence post office with a nearly automatic mail handling system.

Intelex will build the $20-million facility and lease it to the government.

Built on a 13½-acre site, the one-story structure will be 300x420 ft and have only two interior columns. Six bays roofed with concrete barrel arches will cover the building. Columns will be 26 ft high; roof arches will rise 30 ft higher. Walls will be of glass and stone.

The facility will speed mail delivery in the Providence area and in 14 surrounding communities.

Incoming mail will be "culled" with parcel post going onto roller conveyors for handling and bulk mail fed to belt conveyors. Passing through the system, mail will be "faced" (stamped in the upper right corner), cancelled and fed to a sorting line, all automatically.

Six operators at keyboards will handle 3,000 pieces an hour, striking three digit number combinations at their controls to feed letters to the proper distribution box. Mail from each box will be automatically stacked, wrapped and bagged. Dumped on another conveyor, it will go out to the truck docks.

One man will be able to control the flow of mail from a central operating room overlooking the main floor.

Intelex Systems, Inc., is a subsidiary of International Telephone & Telegraph Corp. The Post Office Department will lease the building from Intelex at $1.4 million annually.

Charles A. MacGuire & Associates of Providence is the architect-engineer.

Plastics Will Continue Growth

Prices of reinforced plastics are expected to remain fairly stable while the material continues its steady growth as a construction product.

That's the word from the 14th annual conference of the Reinforced Plastic Division of the Society of the Plastics Industry, held last week in Chicago.

Last year constructors used an estimated 31.4 million lb of reinforced plastics. That represents an increase of 6 million lb, nearly 25%, over 1957. Sales hit $2.3 billion.

This year the plastics industry expects to show a sales gain of about 15% over 1958, reports A. W. Levanhagen, general chairman of the division.

Although reinforced plastic panels will continue to be the major architectural use for these materials for some time to come, an industry survey reveals a number of interesting new applications: sheathing, simulating the appearance of stone or brick; plastic surfaces treated to look like stone or wood; reinforced, plastic-covered plywood for heavy duty or sanitary service; reinforced-plastic-covered steel for corrosion resistance; and reinforced-plastic-covered pulp wood.

Another new product is a plastic-faced concrete or lightweight block that permits erection of finished walls in one operation. This new load-bearing material eliminates the need for lathing, plastering and painting.

Bay Area Road Plans Get the Ax

Most of San Francisco's ambitious $500-million freeway program may go down the drain. The city's Board of Supervisors has adopted a resolution opposing seven out of ten proposed projects in the San Francisco master plan (see map).

Because most of the freeways would be part of the state highway system, the surprise action may cost San Francisco $377 million in state gasoline tax money that was allotted for the projects.

City officials are holding emergency sessions with state legislators in an attempt to forestall transfer of the funds to the highway programs of other states.

The Board of Supervisors did leave the door slightly opened. The board said it would consider any new freeway routing proposed by the state. Presumably, then, even the most vigorously attacked freeways could be discussed again if their routes were changed.

The supervisors actually have no authority to change the Highway Division's plans or to revise the Planning Commission's master plan. But it is the only body that can close streets to clear right-of-way for a freeway.

The apparent immediate reason for the adoption of the resolution was pressure from a group of property owners who had organized to fight construction of the Western Freeway.

Most of the supervisors will be up for election this year.

Many San Franciscans are against more freeways within the city. Its small area (44 sq miles) and lack of room for expansion puts property at a premium.

Some believe freeways take too much valuable land off tax rolls. Others maintain that huge expenditures should be directed to a much-needed rapid transit system for the area. In addition, there is dissatisfaction with the appearance of some of the elevated structures already built.

Of immediate concern to San Francisco is whether the state legislature will withdraw the money that was to be spent for the deleted freeways or will allow it to be channeled to those remaining in the plan.

The state was to spend $87 million in San Francisco County-City in the five-year period ending in 1963. Of this amount, $20 million has been allocated.

The board turned thumbs down on all or parts of the Western Freeway, Junipero Serra Freeway, Park Presidio Freeway, Central Freeway, Golden Gate Freeway, Mission Freeway and the Crosstown Freeway. It didn't upset plans for Hunters Point Freeway, Southern Freeway and Embarcadero Freeway.

State Sen. Randolph Collier, chairman of a joint legislative committee on transportation, says he plans to amend his statewide freeway systems authorization bill to delete six of the San Francisco routes vetoed by the supervisors. He says he may introduce a bill that would reduce San Francisco's share of gasoline tax revenue (about 9.4%) by half.

State highway officials in Sacramento say that a policy decision will have to come from the Highway Commission, which is meeting this week.

There appears to be some chance of salvaging the Golden Gate Freeway.

Atom Waste Disposal

Answers aren't known, but experts plan to find them

What to do about atomic wastes is a poser now. But an answer will turn up.

That's the consensus of a score of experts who testified at Congressional hearings on nuclear-wastes problems last week.

It is too early to tell what legislation will result from the hearings. But it appears likely that Congress will:

- Press the Atomic Energy Commission to speed up its research programs, including construction of pilot plants, and vote extra funds if needed.
- Clarify regulatory jurisdiction of the states and various federal agencies.
- Urge closer U.S. cooperation on the problem with other nations.

Virtually all the expert witnesses agreed that a vigorous research and development program is required—perhaps extending for generations.

Research is going in several directions, including fixation of the wastes in sintered clays and sands, disposal in salt formations, injection into deep wells and disposal deep in the sea.

A committee of the American Petroleum Institute has recommended against storage in old oil fields, which often lie under salt domes. But the experts observe that deposits of rock salt underlie one-seventh of the total U.S. land area, and that costs of providing "salt tanks" might be less than 20 cents per cubic foot.

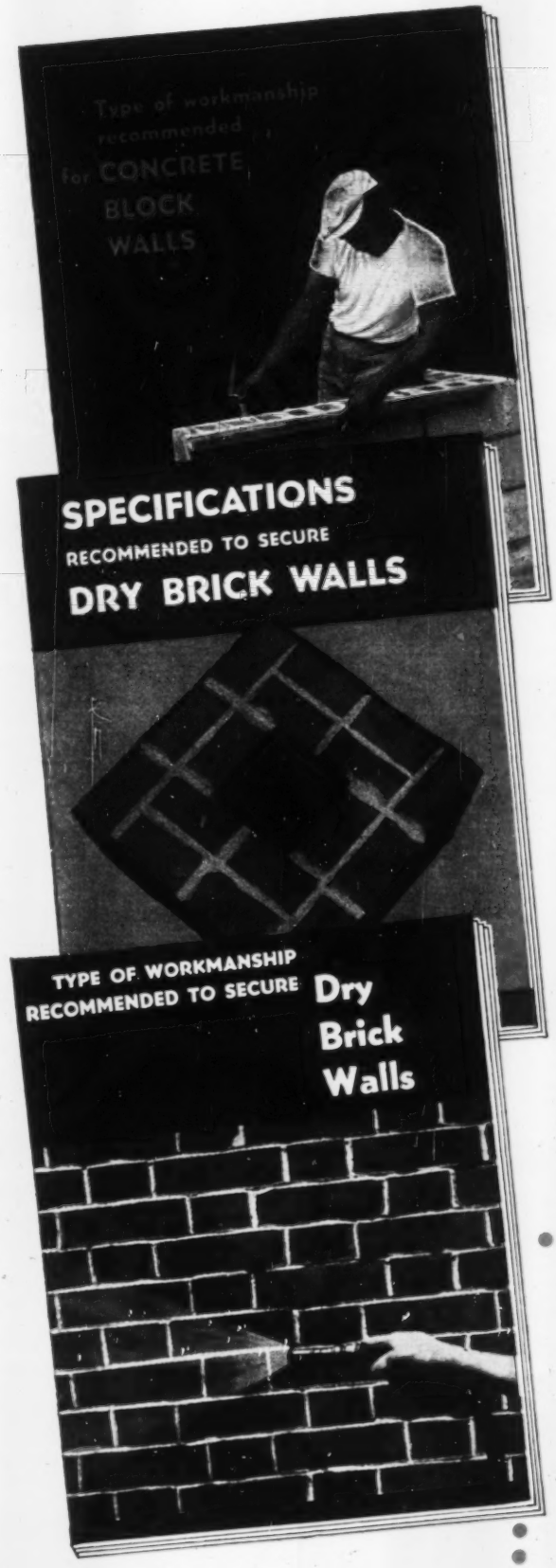
Abel Wolman, a member of AEC's advisory committee on reactor safeguards, told the legislators that some 1 billion gallons of low-level wastes are dispersed to "nature" each year—that is, released into the air or streams, or buried in the ocean or earth.

High-level wastes, which result mostly from reprocessing of spent fuels from atomic power reactors, are concentrated and stored in leak-proof containers underground. But, since some of the wastes will remain radioactive for hundreds of years and the containers may wear out in 50 years, this is a temporary answer at best.

Some 60 million gallons of this highly dangerous "garbage" have been buried underground in special tanks so far. And the experts say the growth of nuclear power generation will require storage of up to a billion gallons per year by 2000 A.D.

A. L. Bethel, testifying for the Bettis Division of Westinghouse Electric Corp., told the committee that waste disposal at the Shippingport nuclear power plant costs an average of $9,300 per month.

(More news on page 39)



GET THESE IMPORTANT BOOKS!

THE three books at the left are a "must" for anyone who is interested in good masonry construction. One describes the type of *workmanship* recommended to secure dry brick walls. The second describes the *specifications* recommended to secure dry brick walls. The third describes the type of workmanship recommended for *good concrete-block walls.*

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Without cost or obligation, please send me a copy of each of your three books on masonry construction.

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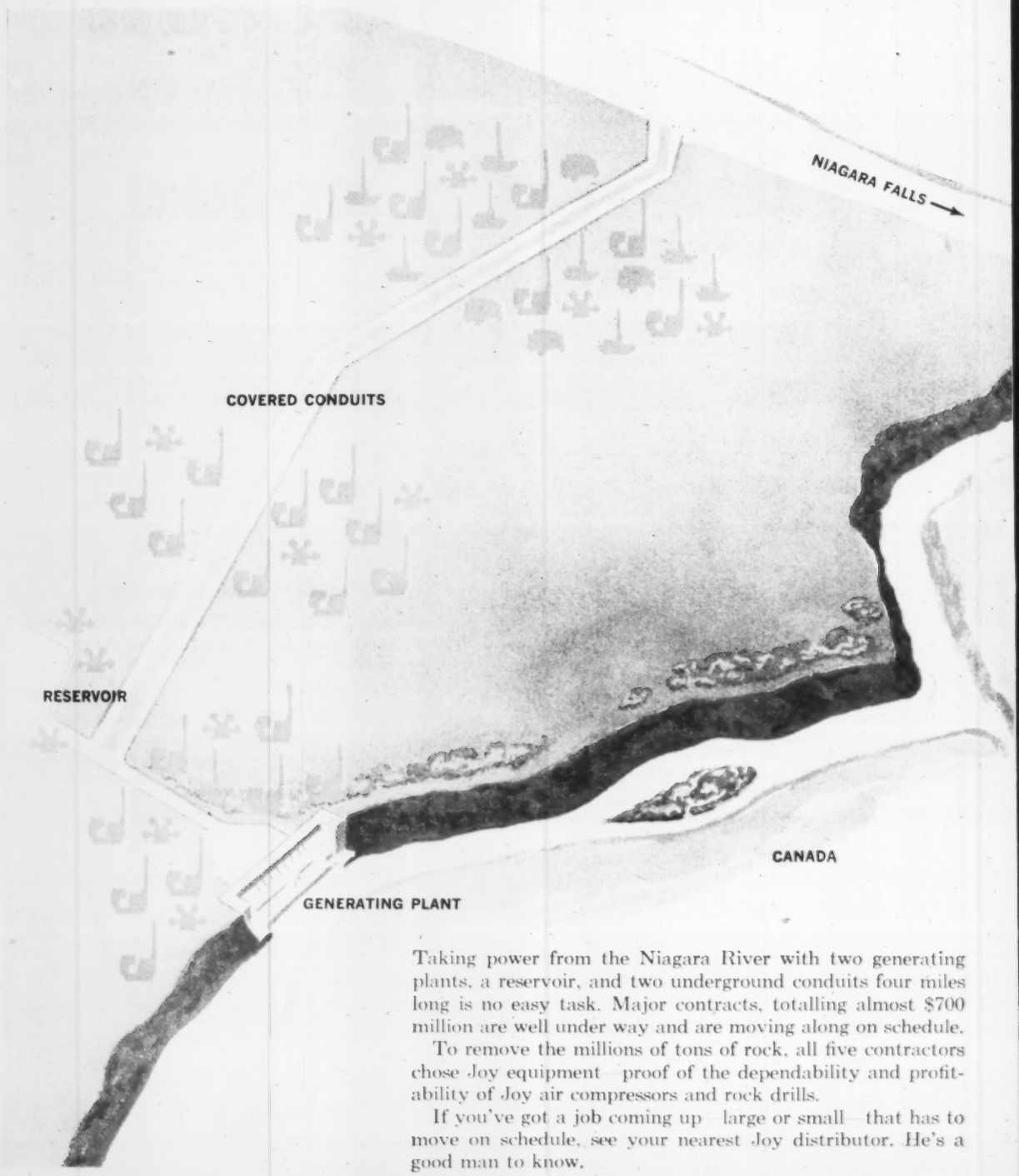
JOY EQUIPMENT

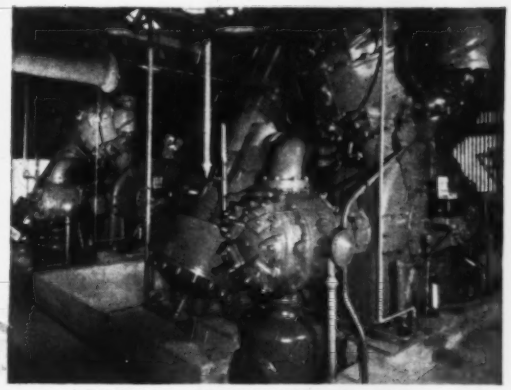


Taking power from the Niagara River with two generating plants, a reservoir, and two underground conduits four miles long is no easy task. Major contracts, totalling almost $700 million are well under way and are moving along on schedule.

To remove the millions of tons of rock, all five contractors chose Joy equipment—proof of the dependability and profitability of Joy air compressors and rock drills.

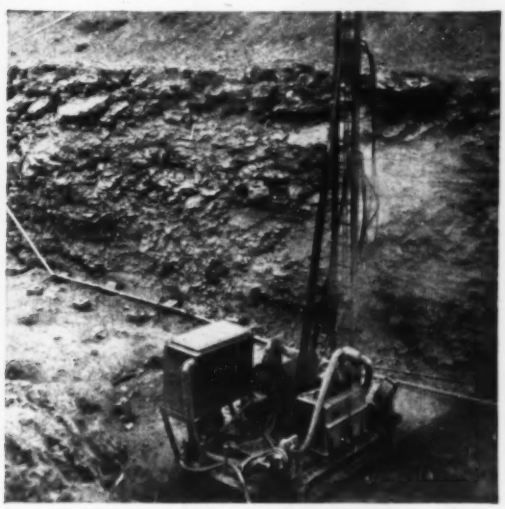
If you've got a job coming up—large or small—that has to move on schedule, see your nearest Joy distributor. He's a good man to know.

chosen for Niagara, one of world's largest rock removal jobs



JOY WN-224 COMPRESSORS—These big units produce 3700 cfm each. Thirteen of these package-type machines are being used by four contractors. Notice the compact design and the simple, relatively light foundations. Installation was quick and easy because the compressors arrived at the site completely assembled.

JOY RP-900 ROTARY PORTABLE COMPRESSORS—These portables are big and rugged—supply 900 cfm each. Even in Niagara's extreme weather, a thermal by-pass valve in the oil cooler system assures adequate lubrication in cold weather. Joy rotaries operate in low temperatures that would keep other portables shut down.



TWENTY-SIX LARGE DRILLS USED . . . JOY CHALLENGERS—With cuts as deep as 200 feet to make, the Niagara job requires big drills. Twenty-six of these Joy TWM-5 Challengers are being used. Mounting the powerful 630 lb. TM-500 drifter drill, the Challengers are punching 4" and 4½" holes down to 30' deep without a steel change.

JOY TDM TRAC-DRILLS—Eight of these fast-moving TDM's mounting TM-450's and TM-500's are being used, along with nine Joy wagon drills that mount the Joy TM-400 drifter. These TRAC-DRILLS work right alongside the larger Joy Challengers, drilling 3½" and 4" holes.

JOY CONSTRUCTION EQUIPMENT IS SOLD AND SERVICED BY THE JOY DISTRIBUTOR IN YOUR AREA.

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In Canada: Joy Manufacturing Company (Canada) Limited, Galt, Ontario

Portable Compressors	Trac Drills	Tungsten Carbide Rock Bits	Hand-Held Rock Drills

WSW C 7417-261

Apartment Builder Killed In Manhattan Plane Crash

Herbert S. Greenwald, 43, developer of Mies Van Der Rohe's "glass houses" on Chicago's Lake Shore Drive, was killed last week in the crash of an American Airlines plane in New York City.

Also among the 65 victims was Albert V. Lewis, a Chicago homebuilder, and Richard J. Winn, an architect for American Airlines.

Mr. Greenwald, president of the Metropolitan Corp. of America, Chicago, is credited with about $150 million worth of urban construction, including the Chicago project and the 22-story Pavilion Apartments in Detroit.

His company has another $120 million worth of construction in the works, including major housing developments in Detroit, Brooklyn, Newark, and Manhattan.

The Manhattan job was Mr. Greenwald's "dream" project. Still on the drawing boards, it would be a repeat of the Chicago "glass houses" on Battery Park, at the southern tip of Manhattan Island.

Mr. Greenwald was born in St. Louis and educated at the University of Chicago. In 1946 he formed the Metropolitan Corp. in partnership with Samuel Katzin.

Mr. Katzin says the firm's present construction program will be "continued to completion."

Mr. Lewis, 59, built some 10,000 homes during 30 years of activity in the Chicago area. He specialized in housing for veterans and Negroes.

Mr. Winn, 41, was born in Portsmouth, N. H. and educated at the University of New Hampshire. He served in the Air Force during World War II as airport engineer. With American Airlines since 1946, he was engaged in planning facilities for jet aircraft.

Skyscraper to Envelop A 10-Story Building

Builders will construct a $45 million office building around an existing 10-story building in the New York City financial district. But tenants on the first six floors of the existing structure won't move out during the work. They're running the communications center of RCA Communications, Inc., there and need to keep operating.

Crews will demolish everything else on the site of the new 54-story building while the center operates behind temporary walls in the section it now occupies. The existing section will be incorporated into the new building.

Emery Roth & Sons is architect for the project. Uris Brothers is the builder. Both are New York City firms.

Around the Country . . .

• **Plan fall bidding**—Douglas County PUD hopes to complete plans for Wells Dam on the Columbia River in Washington in time for bidding and financing next fall.

• **Skyscraper apartment**—An investors group has bought air rights in Chicago for a new skyscraper apartment to go up on the north side of the Chicago River—part of the city's drive for a new look.

• **More architects coming**—Architectural schools in New York, New Jersey and Connecticut are planning for a 70 to 100 percent increase in graduates in the next ten years to meet the expected demands of the expanding construction industry, reports the N. Y. Chapter of the American Institute of Architects.

• **School fire laws**—Philadelphia has ordered periodic school inspections and fire code changes requiring enclosures for stairways and boiler rooms and installation of first-floor screens that could be thrown outward in case of fire.

• **Where credit is due**—Signs at state construction projects in Rhode Island will no longer bear the name of the governor and other officials. "If such signs are to credit anyone," says Gov. Christopher Del Sesto, "it will only be to say: 'This project is being built by the taxpayers of Rhode Island'."

• **Plastic design manual**—American Institute of Steel Construction's plastic design manual for steel structures is available at $4 from AISC at 101 Park Ave., New York 17, N. Y.

• **P for Parkway?**—Eleven babies have been born on New Jersey's 173-mile Garden State Parkway since it opened in 1955. First member of the club, born July 11, 1955, was Wm. P. Cimilluca, West Orange.

• **Pennsylvania bridge**—The American Bridge Division of U. S. Steel Corp. is erecting a two-lane, 1,592-ft, toll bridge across the Ohio River between East Rochester and Monaca, in western Pennsylvania. It will be a three-span cantilever bridge plus a deck plate girder span. More than 1,000 tons of the 3,600 tons of structural steel for the bridge will be of high-strength, low-alloy grade.

• **Freighters freed**—Two freighters that broke loose in the Buffalo River and demolished a Buffalo bridge during late-January storms were pulled clear of the wreckage by tugs. Ice and debris piling up behind the ships threatened to raise the water level and flood South Buffalo all over again.

• **Jungle railroad**—An international joint venture co-sponsored by Utah Construction Co. of San Francisco will build a $26-million railroad through the jungle in French Equatorial Africa. It will be a single track, 200-mile railway.

• **Animal? Vegetable?**—Gravel isn't a mineral in the usual sense of the word, the North Dakota Supreme Court says. The decision is important because it establishes that when the state, in selling land, retains 50% of the mineral rights as required by law, those rights do not include gravel under the land.

Corps Asks Bids on Atlas ICBM Base

The Air Force's intercontinental ballistic missile program pushed ahead last week with a call for bids for initial work on another Atlas ICBM base and the beginning of a survey of nine potential ICBM bases sites.

The Corps of Engineers called for bids in the $20 million to $30-million range on contracts for the first increment of work on an Atlas facility at Offutt Air Force Base, Neb.

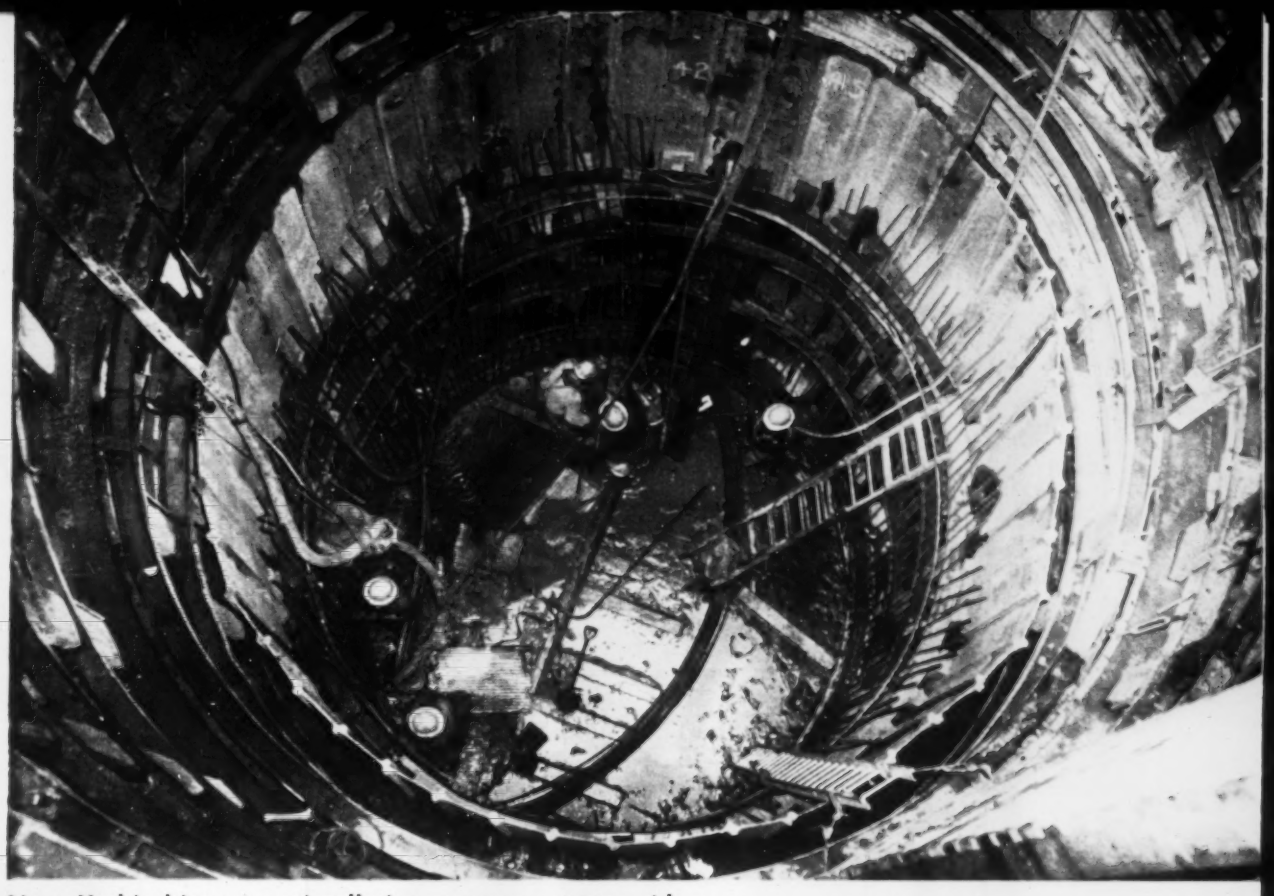
Strategic Air Command headquarters in Omaha announced that ICBM squadrons are being considered for four of nine existing Air Force bases.

Bases under survey are Lincoln AFB, Neb., Schilling AFB, Kan., Ellsworth AFB, S. D., McConnell AFB, Neb., Richards-Gebaur AFB, Mo., Mountain Home AFB, Ida., Larson AFB, Wash., and Beale AFB, Calif.

Construction at Offutt AFB will include launching sites near Mead and Arlington, Neb., and Missouri Valley, Iowa, and support facilities at Offutt.

Each site will have three launch buildings, each housing an Atlas ICBM. Each site will have a launch operations building, a power and pump house and other facilities.

Support installations at Offutt AFB will include a missile assembly and service building, a liquid oxygen plant capable of a daily output of 25 tons.



New York's biggest anti-pollution program starts with . . .

Tunneling in Unpredictable Soil

Construction of New York City's biggest pollution control project has started with tunneling and open cut excavation for a $10-million intercepting sewer in Brooklyn and Queens.

The new line will intercept sewers now emptying into the East River tributaries and carry the sewage to a treatment plant to be built later as part of the big scheme.

The over-all plan is called the Newtown Creek Pollution Control Project. Its $109-million cost will include other interceptors in lower Manhattan and Brooklyn, a force-main tunnel under the East River and a treatment plant outfall.

• The soil problems—Tunnelers digging the Morgan Avenue interceptor are mining through soft ground under compressed air. They are running into gravel, silt, clay, boulders and sand of varying density and moisture.

Some sections are entirely glacial till. This variety of geological matter, in inclined layers, makes the nature of the tunnel face unpredictable.

Water flows constantly through the tunnel, sumps and pumps—varying from 10 to 100 gpm. The existing water table is at an average of 25 ft above the tunnel subgrade.

It is not unusual to find that characteristics of the materials at the heading change radically from day to day. When sand is encountered, extensive breasting of the tunnel face is required.

Some 5,000 ft of the 102-in.-dia tunnel is being shield driven. The shield is thrust forward by 12 hydraulic jacks, which bear against the completed, reinforced steel liner plates. Each jack has a capacity of 100 tons, but only 35 tons have been required so far.

Excavation at the heading is done by hand. From directly behind the shield a belt conveyor takes the muck back and loads it into 2 cu yd cars, which are hauled through the air lock and to the shaft by battery locomotives.

The shield is pushed in increments of about 16 in. The cutting edge presses into the face. An 18-in. hood extension protects men and equipment at the face.

The shield tends to tilt downward as it advances. To keep it on a level course, the bottom jacks are activated first to push some 14 in. Then the top jacks finish the push, keeping the hood always pointing slightly upward.

The jack pistons are subsequently retracted and another ring of steel plates is installed inside the tail of the shield.

At the start of the job some of the liner plates crumpled under the force of the loaded jacks. To avoid this the liner plates are now reinforced with 3 x 12-in. steel flat bars welded at the center of the liner plates. These stiffeners prevent plate webs from being crushed and permit faster driving.

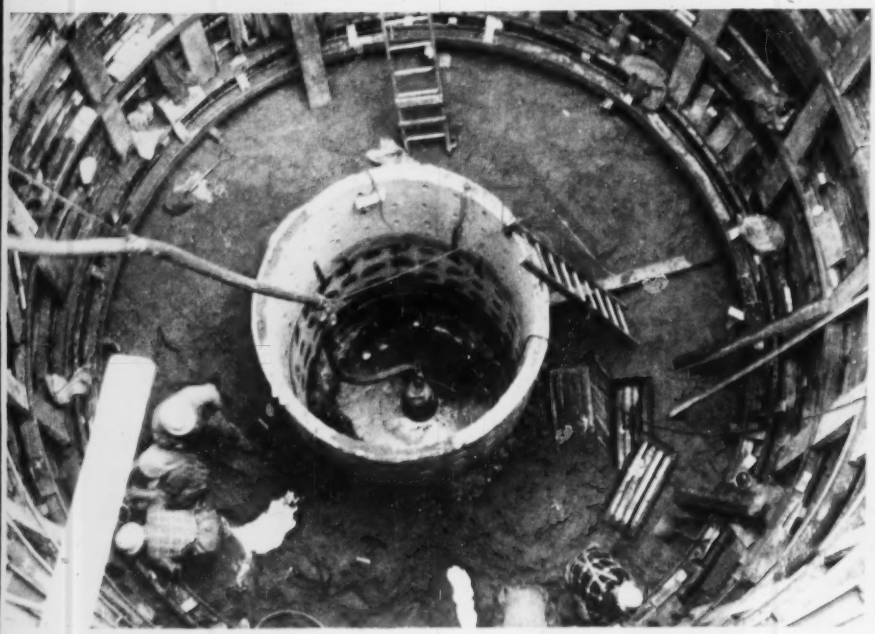
Curves and "shield roll" present minor, but time consuming, obstacles.

In turning the seven 100-ft-radius curves in the tunnel alignment, the tail of the shield overlaps the lining already installed. Shoving the shield around such curves presents a problem. This requires unbalanced shoving and slows down the drive. The contractor also must dig wide on the inside of the curve.

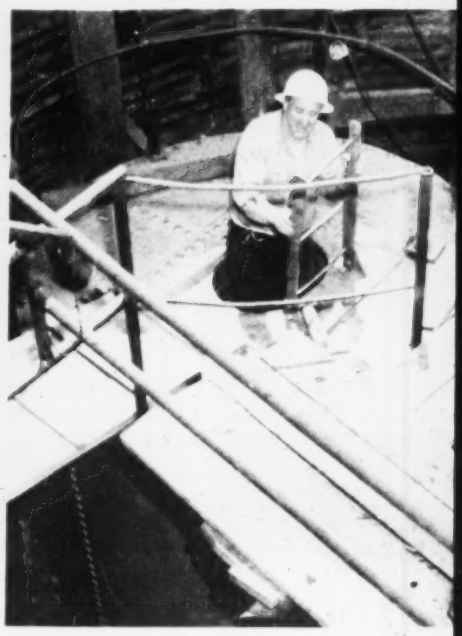
To correct for shield roll, Harry Redwood, tunnel superintendent, decided to excavate an oversize forward drift and then lined with oversize diameter plates. The shield was then shoved into the pocket, straightened and realigned in this widened section.

The concrete lining is designed for a thickness of 15 in. However, to allow

. . . Tricky tunneling—and difficult open-cut work, too



Shaft goes 32 ft below water table in free air as sump pump works.

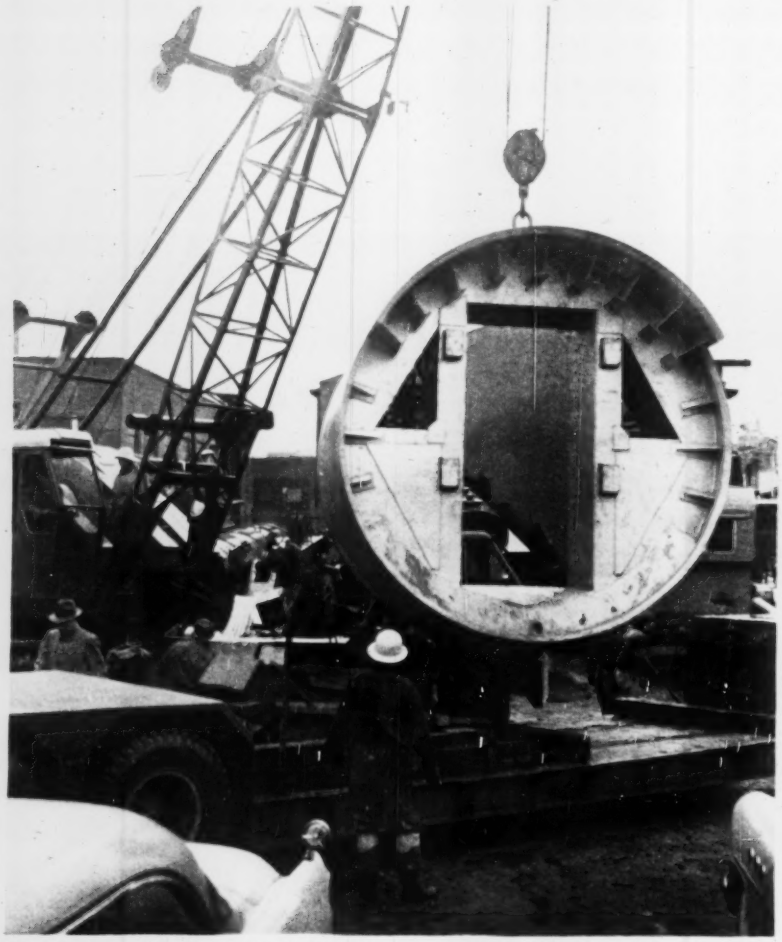


Man lock and muck lock then seal

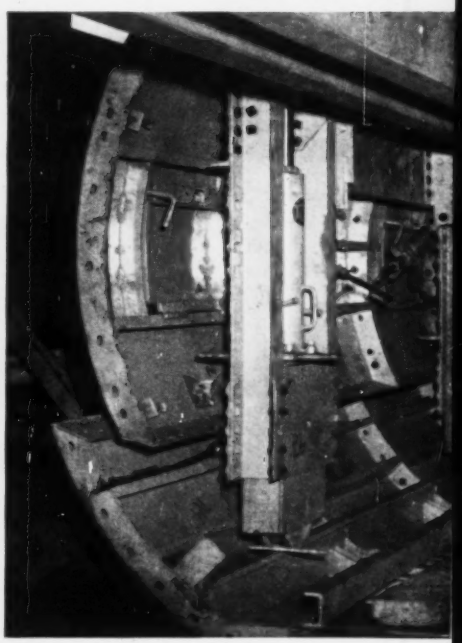
for possible misalignment, some 17½ in. of concrete is provided with an inner and outer ring of No. 7 reinforcing bars.

Concrete is pumped into the tunnel from the street through drop pipes constructed at approximately 500-ft intervals along the tunnel route.

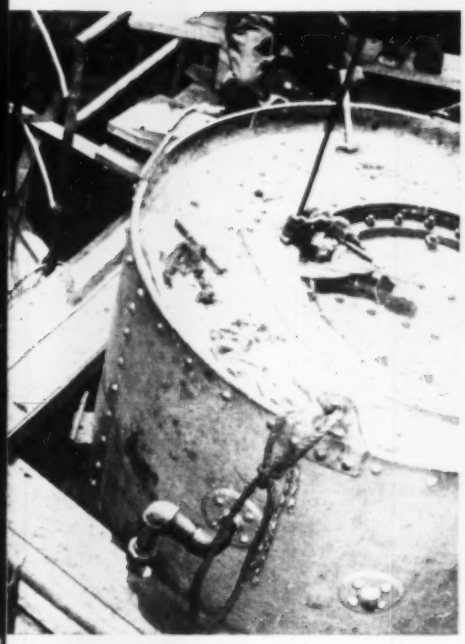
Full circle telescoping steel forms are being used for the concrete lining of the tunnel.



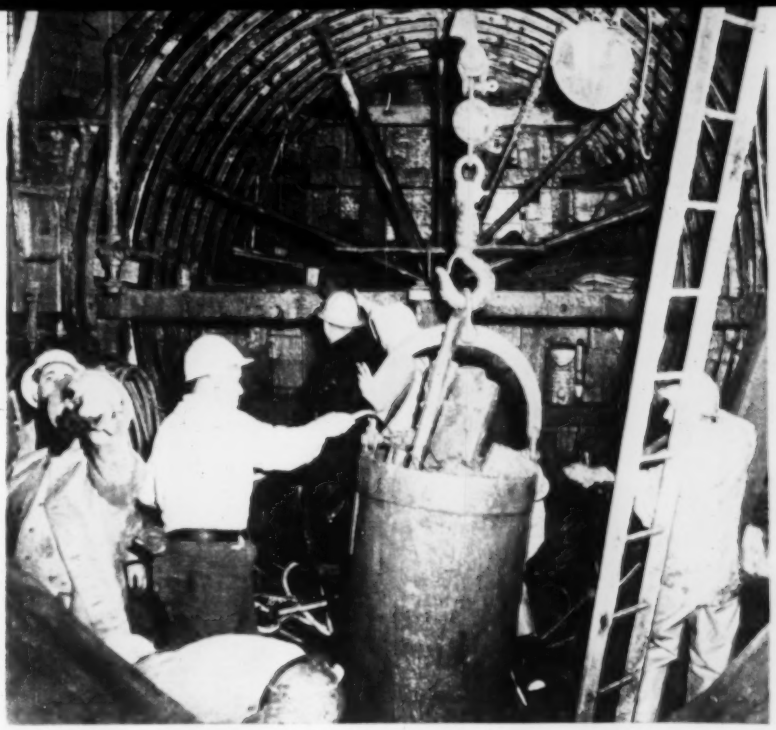
Driving shield is readied to be lowered to tunnel heading.



Telescopic, full-circle forms give an



top of finished shaft.



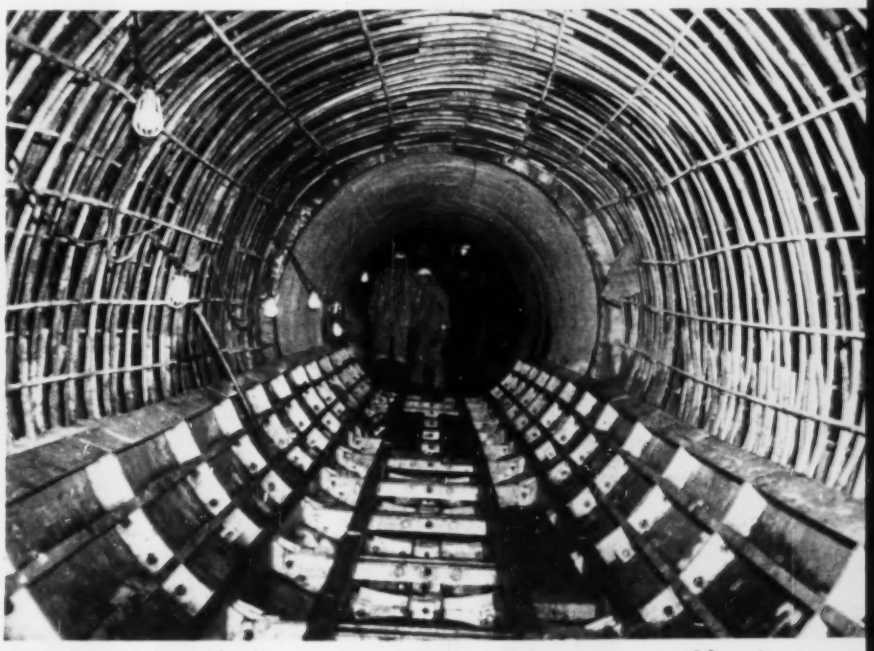
Hand-mined start on north heading makes space for shield.

• **Open cut section**—For the open cut trench section of the job, the contractor is using steel beams and wood lagging. Twelve-inch 53 lb H beams, 35 ft long, are driven along both sides of the trench alignment at 10 ft intervals before excavation. Timber lagging 4 in. thick is placed on the back flange of these soldier beams as excavation progresses. At 6-ft intervals 10 x 10-in. timber bracers are placed across the cut between the H beams. The open trench is excavated in three or four stages.

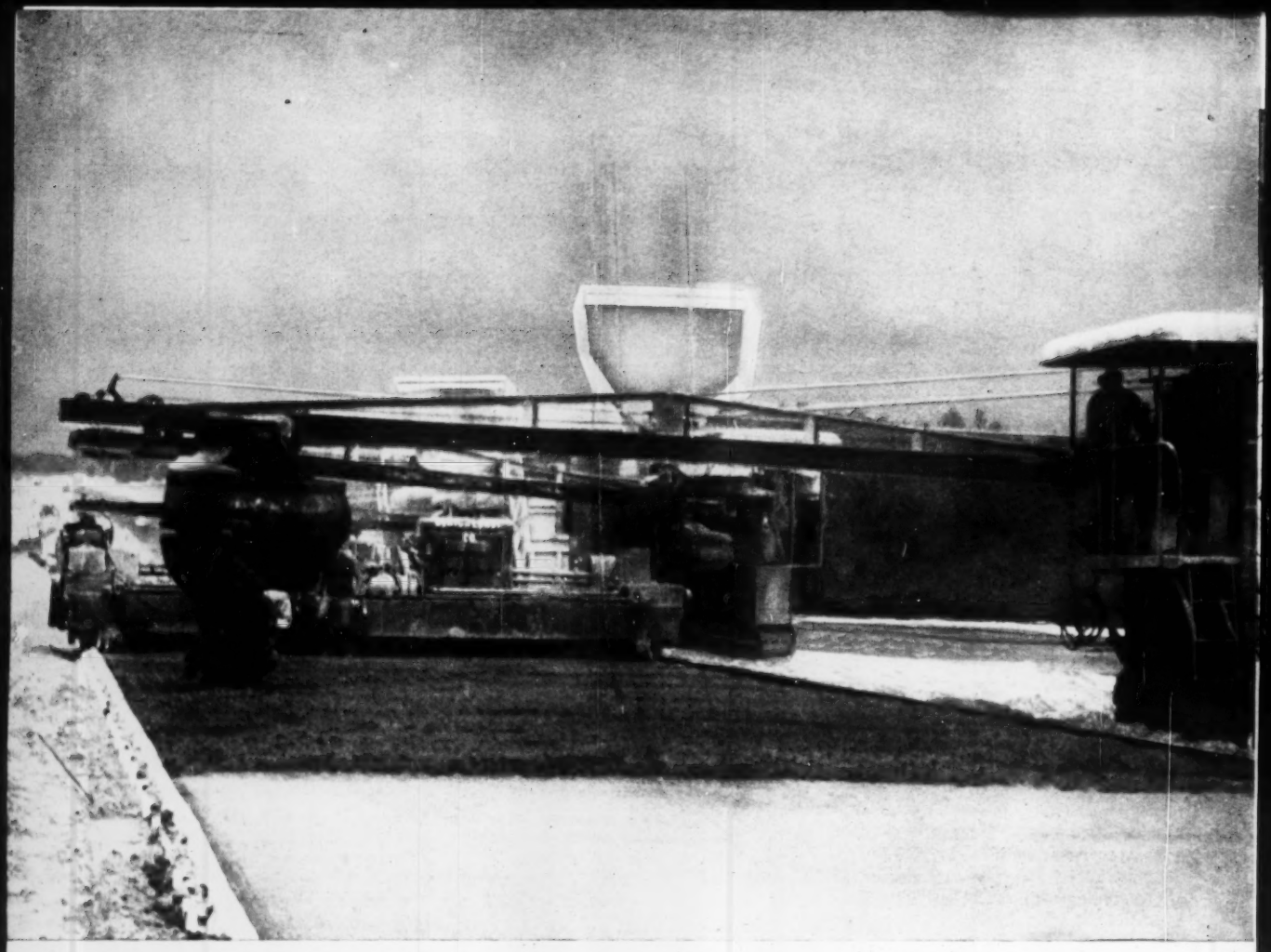
The contractor then returns to the start of the open cut work and continues to dig to subgrade. During his second phase, lagging is erected at the inside flange of the H beams. This provides space to install wellpoints behind the lagging to dewater at this lower depth.

Because construction site area is located in a congested industrial neighborhood, it is essential that all utilities and traffic arteries remain in service. This calls for supporting all public and private utilities in the path of the open cut. All pipes and cables crossing the excavation are temporarily supported. One lane is kept open for one-way vehicular traffic. Two lanes bridge the excavation at important intersections to maintain cross

8½ ft finished diameter.



Double-ring bars for 15 in. of concrete (circle forms not used here).



Record-holding Denton Construction Co. says:

"Shooting for paving records?..

An efficient batch plant... plus Macks to carry the dry mix, means that Denton's pavers are always supplied for full-capacity operation. Says Denton: "We shoot for high-speed productivity, through a balanced use of the most efficient equipment. For important, heavy-duty jobs like hauling the dry mix—that meant Macks."

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6,029 feet of 9" x 24' concrete slab in a single day —a national record—was poured and paved last summer by Denton Construction Company in Michigan. Heading up the impressive array of equipment during this remarkable feat is one of the 5 Mack B-42S and 11 B-42IS dumpers that Denton used to keep the paving machines going full blast.

.better use Macks"

"Naturally," says Ed Denton, vice president of Denton Construction Company, Grosse Pointe Woods, Michigan, "Macks were part of the team when we made our record pour. But we didn't put Macks on merely to break records.

"Steady, flawless, high-speed paving on all jobs is our key to profits. This places a premium on an *uninterrupted* flow of dry mix to the pavers—our main reason for using Macks. But there are other advantages, too.

"Economy, for instance. Macks cost us less to own and operate. For one thing, their steady performance and perfect availability have allowed us to get along with fewer batch trucks—a big saving. And Macks stay in top condition for years with only routine attention—again we save money."

In short—Denton finds that Macks have what it takes—in work capacity, in performance, and in economy. So whether you're going after paving records, or whether you're anxious to improve your general profit picture, Macks will give you the best kind of start. Want definite proof? Ask your Mack branch or distributor for the names of local Mack users. Mack Trucks, Inc., Plainfield, New Jersey. In Canada: Mack Trucks of Canada, Ltd.

A minimum number of Macks is needed to handle a big job . . . even when Denton is operating full speed ahead. According to Denton, "Two Macks, properly used, can outwork three other-make trucks of equal rating during the course of a season's operation."

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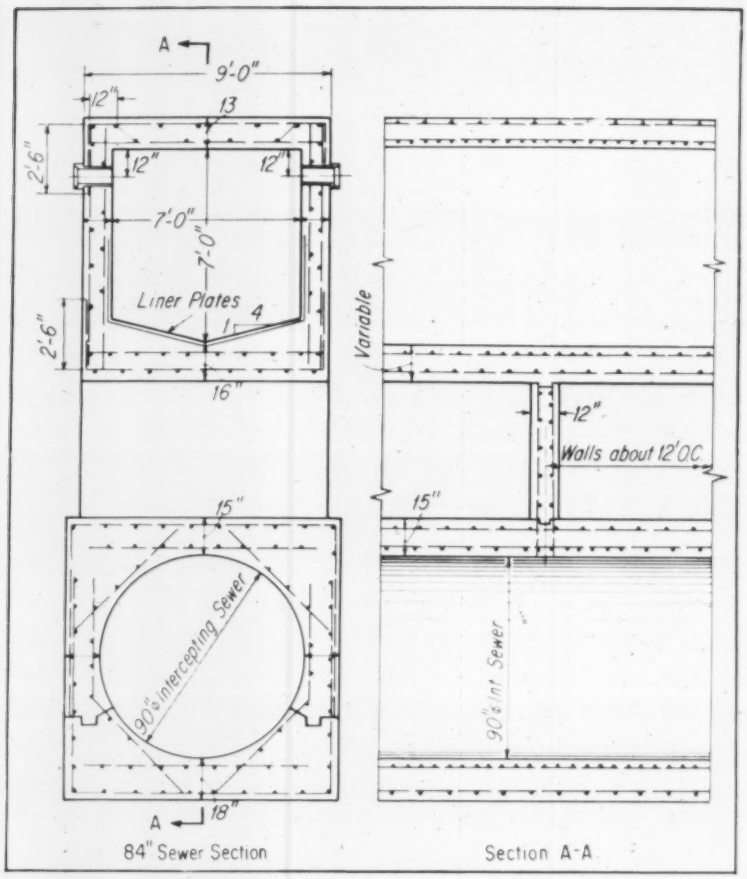

15,389 ACRES will be served by the 310 mgd Newtown Creek Sewage Treatment Plant. Seventy-eight raw sewage outfalls will be eliminated.

traffic flow and to keep fire lanes open.

An existing Brooklyn sewer, 3 ft. 9 in. x 9 ft. 7½ in., had to be removed because its route lay directly above the new interceptor. Its flow is now carried by a temporary flume. Later the sewer will be rebuilt "piggy-back" on the new trunk sewer, which rests at an average depth of 35 ft.

Here are the steps in the piggy-back construction after subgrade is reached:

A 1,500 psi concrete base 2 in. thick is first cast at the bottom of the excavation. Upon this base reinforcing steel and forms are erected for the sewer invert.

Then 3,500 psi truck-mixed concrete is dropped in the forms through metal chutes. Construction of the arch section follows. After the concrete is set, piers are built upon the arch at intervals of 12 ft. Compacted fill is placed over the completed interceptor to the top of the piers.

The piggy-back replacement sewer will be constructed on these piers. The manhole walls are lined with glazed brick and the invert of the piggy-back sewer with terracotta tile.

• **Tunnel starts at shaft.** The tunnel work started with the sinking of a 62 ft-deep shaft of 24 ft dia. using liner plates and rib supports.

Tunnelers hit saturated silt at about —35 ft, and a second stage of steel sheetpiling was used to bottom out the shaft.

To break away from the shaft for the tunnel portals it was necessary to use compressed air. Covers had to be erected within the shaft opening so that compressed air could be introduced into the excavated portion of the shaft to stem the heavy flow of water. Therefore, the contractor built a man lock and a larger muck lock in the pit.

Work at the north and south tunnel portals proceeded under air. After a sufficient stretch of tunneling had been completed both ways (two headings) air locks were built in the tunnels. In the south heading, pressure has varied from 5 to 15 psi, and in the north heading it has ranged 5 to 17 psi.

Because of the variable nature of the ground—the mixed-up geology—heading progress has varied from 50 to 120 ft per week.

• **The big picture.** The 2.7 mile long Morgan Avenue interceptor will carry

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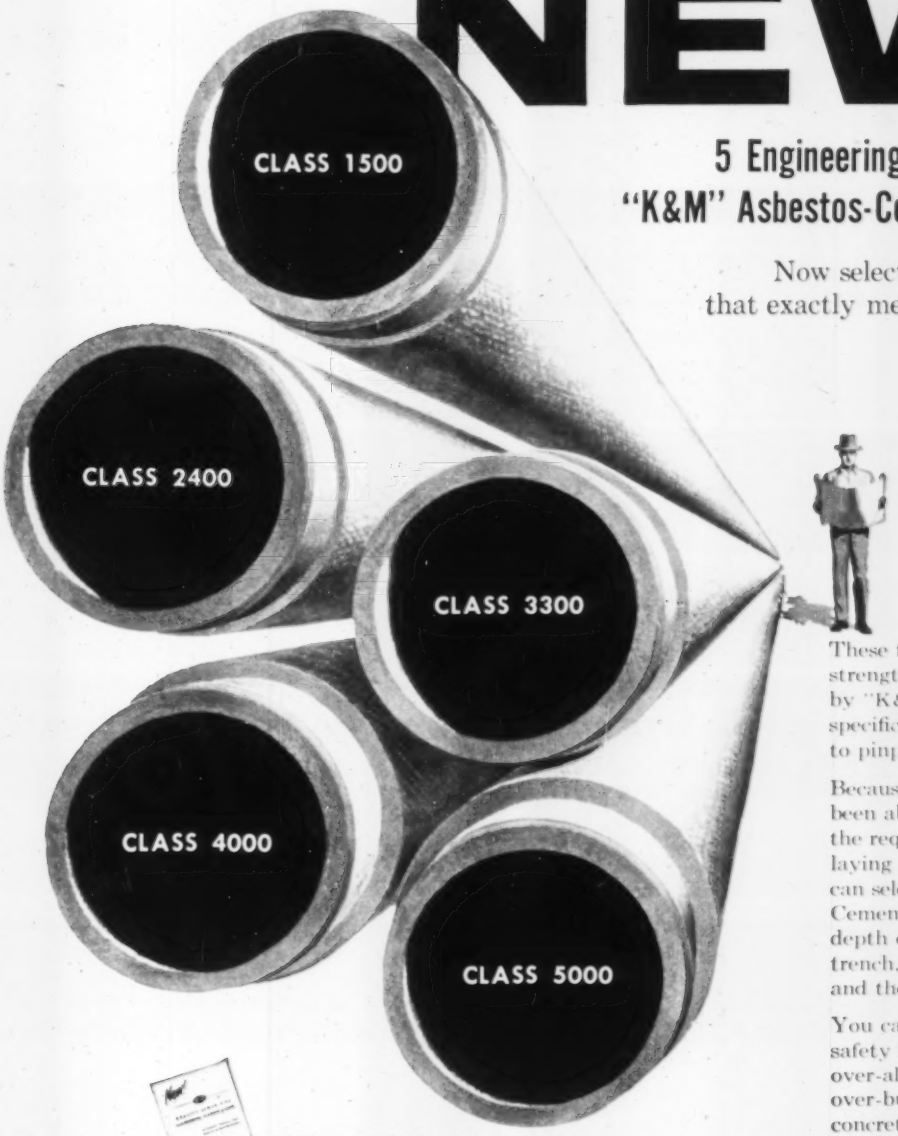

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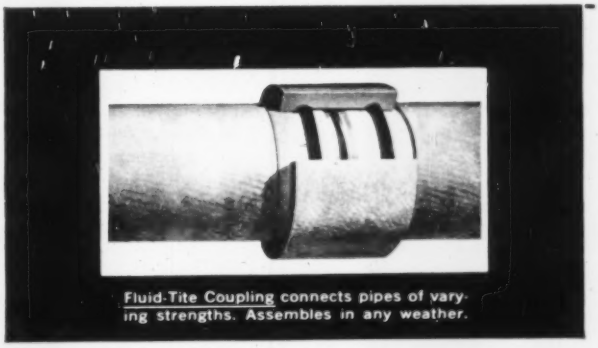

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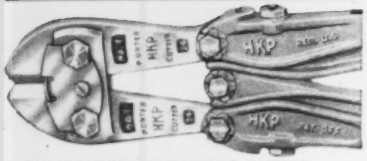

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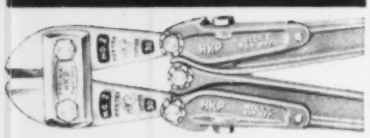

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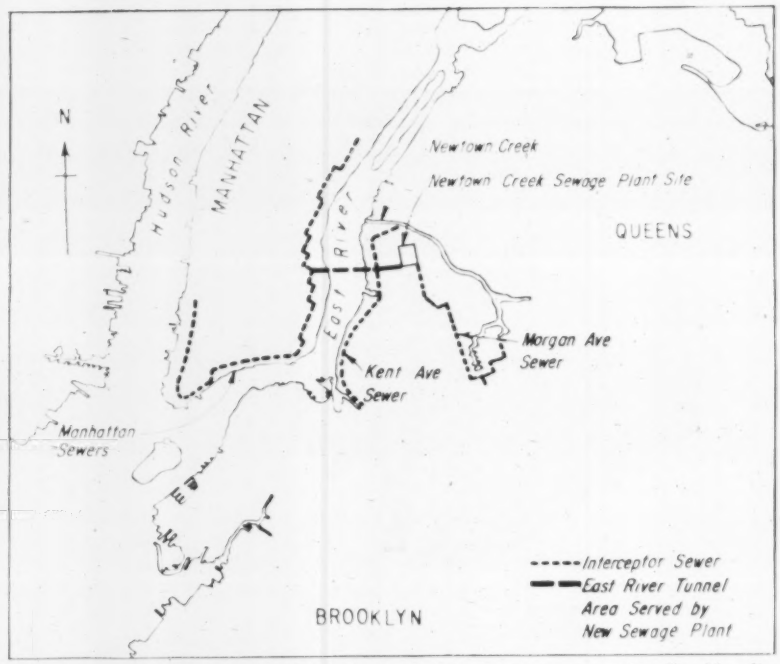

"PIGGY-BACK" SEWER—To build the lower interceptor sewer, existing Brooklyn line was removed and replaced by a new 84-in. sewer.

sewage to the Newtown Creek treatment plant, which will be built in a forthcoming stage of the Department of Public Works' Newtown Creek project.

The 310-mgd plant, when completed in 1963 or 1964, will provide treatment for northeast Brooklyn, southwest Queens and lower Manhattan. The sewage flow from Manhattan will be pumped to the plant through a tunnel to be driven under the East River. City treatment capacity will be increased some 40% beyond the present 776.5 mgd capacity of the 12 plants in operation.

Interceptor-collectors from Queens and Brooklyn, varying in size from 18-in. dia to 36-in. dia have been constructed as part of the first stage of the project.

Another line, the 2.8-mile Kent Ave. intercepting sewer, is to be constructed next year at an estimated cost of $15 million. A half-mile will be tunneled.

Sanitary flow from the section of Manhattan to be served by the planned Newtown Creek plant will be conveyed by two intercepting sewers to a pumping station. The two lines, estimated to cost $18.2 million, will be 5.2 and 3.7 miles long. One will vary in dia from 4½ to 9½ ft, and the other, 1½ to 8½ ft.

The force main under the East River will be 1.5 miles long, 8½ ft in dia. This tunnel will cost $6.5 million, while the pumping station will cost more than $3 million. (ENR Oct. 30, 1958, p. 28)

Some 78 sewer outlets now pouring 310 mgd of sewage into Newtown Creek, the East River and the Hudson River will be eliminated when the plant is completed. The plant will serve an area of 26 sq miles.

The contractor for the Morgan Ave. sewer is a joint venture of Andrew Catapano Co., Inc. and Grow Construction Co., Inc., both of New York City. Andrew Catapano is president of the former firm and Charles Goodman heads the Grow company.

For the New York City Department of Public Works, Henry G. Vermont is the resident engineer, James V. Marra is project engineer.

Leo Magid heads the bureau of construction, Louis Schwartz the bureau of design, William A. O'Leary is director of the Division of Sewage Disposal, and Frederick H. Zurmuhlen is commissioner.

State Safety Inspectors Shut Down Portland Tunnel

Work on the City of Portland's 19-ft-dia diversion tunnel for Bull Run No. 2 has been stopped by safety inspectors of the Oregon State Industrial Accident Commission.

The stop-work order followed a partial cave-in of a 20-ft-long section. It occurred when a pocket of boulders broke loose and crashed through the tunnel lining, injuring three workmen.

The order will remain in effect until safety measures are assured.

3/8-inch cord was the primer used with oil-soaked Spencer N-IV Ammonium Nitrate for this blast.

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Different from any prilled ammonium nitrate now on the market, Spencer N-IV reduces priming costs because it can be initiated with a single strand of 3/8-inch detonating cord. There's no need to attach additional material at intervals, or employ other complex priming methods —and you don't have to store high explosives on the job site!

The superior blast effect and easier detonation of Spencer N-IV are the result of a special structure which allows the prills to absorb oil more easily. Combine this with the fact that Spencer N-IV contains a much higher percentage of ammonium nitrate than other brands, and you can see why N-IV gives consistently better fragmentation.

Completely free-flowing for easy loading, Spencer N-IV is packaged in 50-lb. polyethylene plastic bags, as well as 50, 80 and 100-lb. multiwall paper bags. Two years of tests have proven that the polyethylene bags are tougher than paper and can reduce bag breakage as much as 50%. No more trouble with leaking oil— and these bags are so moisture-proof they can actually be stored out doors!

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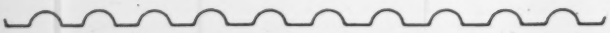
Faster, More Economical Concrete Slabs with Bethlehem Slabform

STANDARD SLABFORM



HEAVY-DUTY SLABFORM

EXTRA-HEAVY-DUTY SLABFORM

Bethlehem Slabform is a high-strength steel centering which speeds the pouring of concrete floor and roof slabs. It requires no blocking or bracing and, compared to flexible-type centerings, it saves concrete. The result: more economical concrete construction.

Three Weights Available

Slabform is furnished uncoated for structural cast-in-place slabs, or continuously galvanized for use as a permanent structural member for lightweight insulating concrete roof slabs or as an exposed form.

Made from steel having a yield point of about 90,000 psi, Slabform is made in three weights: Standard Slabform for spans normally up to 3 ft; Heavy-Duty Slabform for spans up to 5 ft; and Extra Heavy-Duty Slabform for spans up to 7 ft. The table below gives the physical properties.

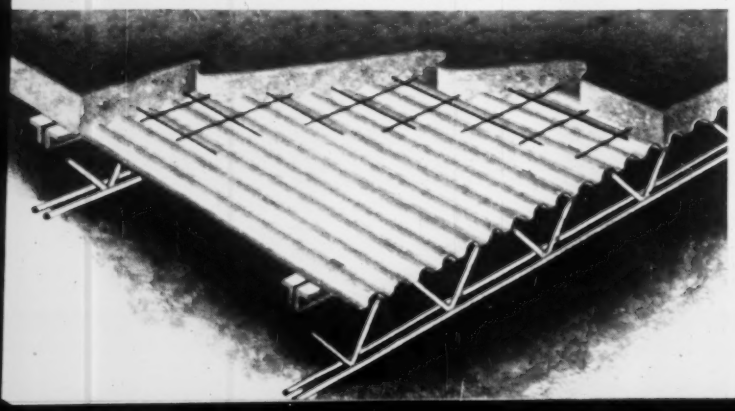
Properties Per Foot of Width			
	Thickness In.	Moment of Inertia $In.^4$	Section Modulus $In.^3$
Standard	0.0156	0.012	0.0333
Heavy-Duty	0.021	0.039	0.080
Extra Heavy-Duty	0.024	0.101	0.136

NOTE: Properties are computed in accordance with requirements of A.I.S.I. "Light-Gage Cold-Formed Steel Design Manual."

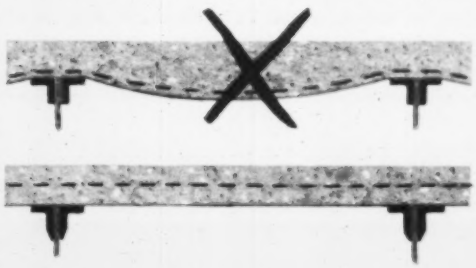
Shipping weights per square based on cover or laying widths:

Slabform Section	Black	Galvanized
Standard	79 lb	87 lb
Heavy-Duty	115 lb	126 lb
Extra Heavy-Duty	138 lb	150 lb

Slabform provides lateral restraint for supporting members and stiffens the complete assembly when it is in place and properly attached. No wooden blocking or bracing is required because there is no lateral pulling or straining of members during Slabform placing.



The solid form helps retain the moisture needed for continuing hydration of concrete during the curing period, resulting in greater concrete strength. Rigid Slabform holds deflections to a minimum, saving up to 20 pct in concrete.



Slabform Saves Time and Money

Rigid Bethlehem Slabform sheets hold deflections to a minimum under wet concrete and save up to 20 per cent of the concrete required when flexible types of centering are used.

Slabform can be used with lightweight insulating concrete roof fills at support spacings much greater than the economical use of flexible centerings will permit.

The nearest Bethlehem sales office will be glad to supply you with full details on Bethlehem Slabform. Design load capacities, suggested specifications and other data appear in our catalog in Sweet's Architectural File.

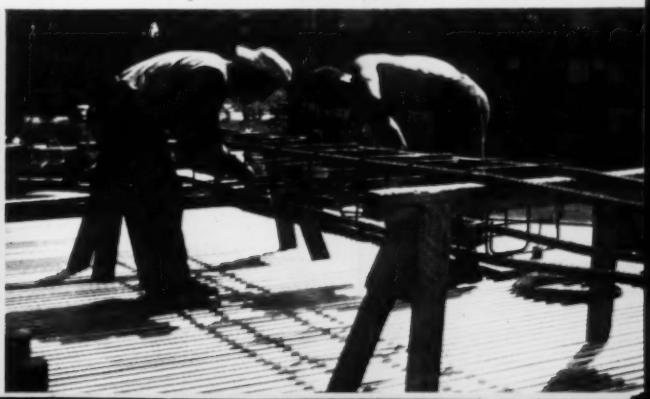
BETHLEHEM STEEL COMPANY, BETHLEHEM, PA. On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributors: Bethlehem Steel Export Corporation

BETHLEHEM STEEL

BETHLEHEM STEEL

Because of the rigidity of Slabform sheets, the slab can be poured and finished in only one operation. Its appearance from below, after installation, is neat and clean.

Slabform is placed easily and quickly. When placed, it provides a solid, safe working platform for all trades. Slabform readily withstands normal construction abuse.



New building now houses extension of old hotel's ballroom.

Trusses next door picked up old

Column Surgery Extends Ballroom

To build a bigger ballroom, engineers extended a two-story section of New York City's plush Hotel Pierre into a new, adjoining office building and they maintained a clear floor in the enlarged hall while they were at it.

The expansion involved cutting out two exterior hotel columns and transferring their loads into the frame of the new building.

The job increased the hall's capacity from 550 to 950 persons. Both structures are the property of a single owner.

• **In the hotel**—The ballroom extends from the second to the fourth floor of the hotel. One end of it was against an exterior wall facing the new office building. Two columns in this wall performed double duty, carrying building loads from the hotel superstructure above and carrying one end of trusses supporting the ballroom's ornate ceiling.

These column loads had to be transferred to the new building frame without any movement in the superstructure of the fully occupied hotel, and without damage to plaster or to the ballroom ceiling.

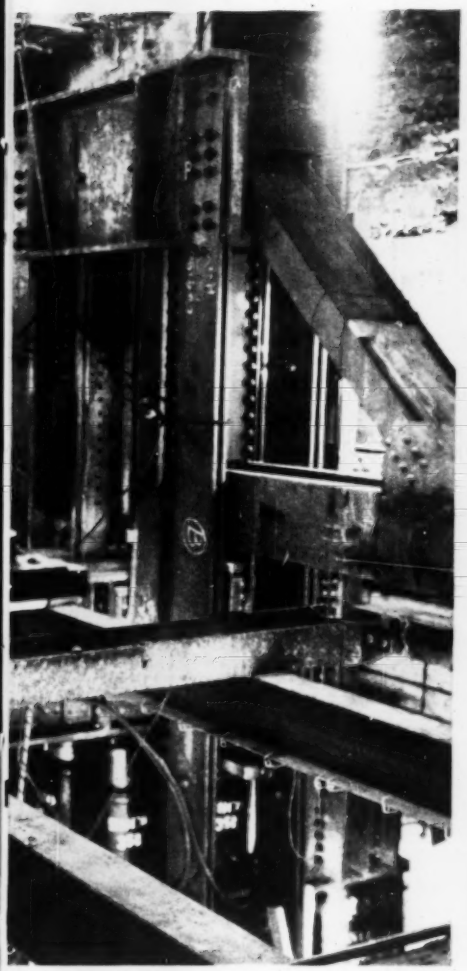
• **In the new building**—Two heavy trusses were built into the frame of the new office building. They span 57 ft across the two-story ballroom extension and are parallel to the wall between the two buildings.

These trusses have two functions: They carry the 18 stories of new building above them; and they transfer into the new structure about 2,600 kips of hotel load formerly carried by the two columns being removed.

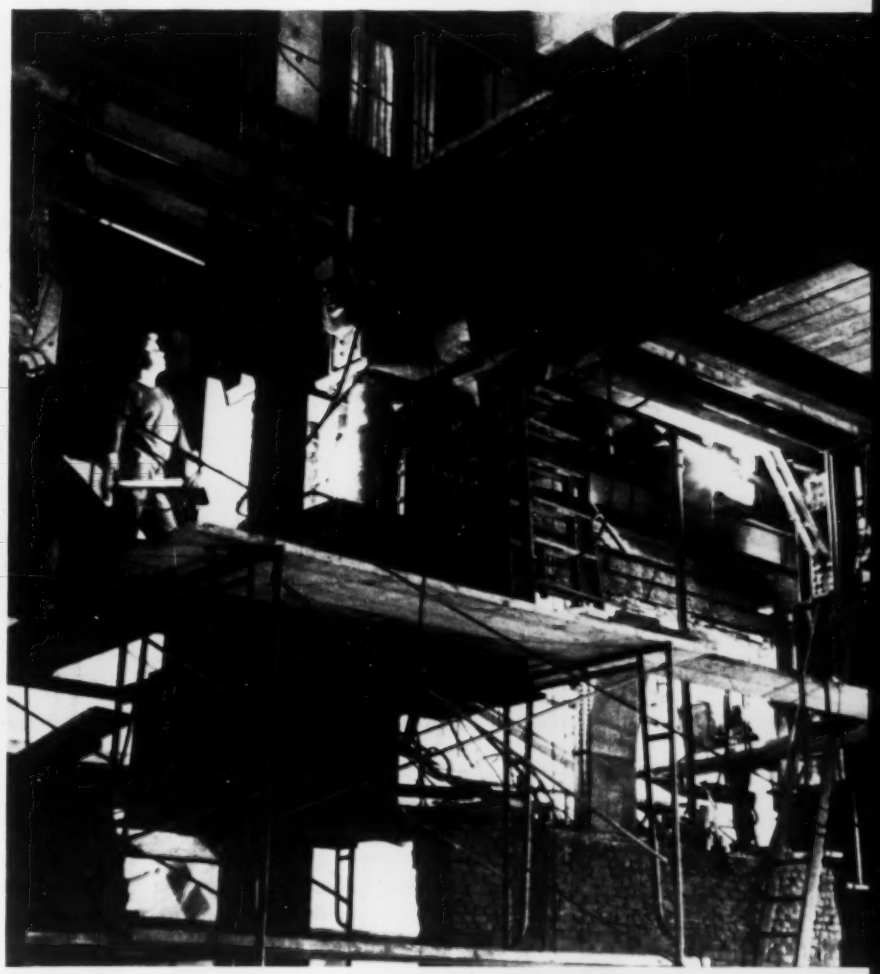
The first truss, T1, immediately next to the hotel, weighs 60 tons and extends from the fourth to the sixth floor. The second truss, T2, is 17 ft farther over, at the first interior column line of the new building. It rises one story from the fourth floor.

Two pairs of permanent 36WF300 beams act as load transfer members between the two buildings. One end of each beam is framed to the bottom chord of truss T2. The opposite ends are suspended just under truss T1 and project into the old building, straddling the old columns and attached to them.

Sets of steel-plate suspenders, pin connected to the 36WF beams, trans-



hotel's column loads . . .



allowing removal of hotel wall and columns for clear floor.

Into Adjoining Building

mit a 3,200-kip reaction from the transfer beams to the TJ truss. These suspenders were left free to move vertically between connection angles on the TJ truss during load transfer. With the loading completed, holes were drilled through both the angles and suspenders for bolting the assembly in final position.

• **Shifting the loads**—Two sets of hydraulic jacks at each column transferred the loads from the hotel columns to the trusses next door.

Temporary steel yokes, hung from truss TJ and extended below the transfer beams, carried the first set. Hydraulic jacks on the cross members of the yokes pushed up against the transfer beams. Four 350-ton capacity jacks were used in each yoke to pass loads from the transfer beams to the truss.

So that truss deflection, and from it movement in the hotel frame, wouldn't be a factor, steel crews waited until all concrete floors and masonry walls had been erected in the office building before starting the load transfer.

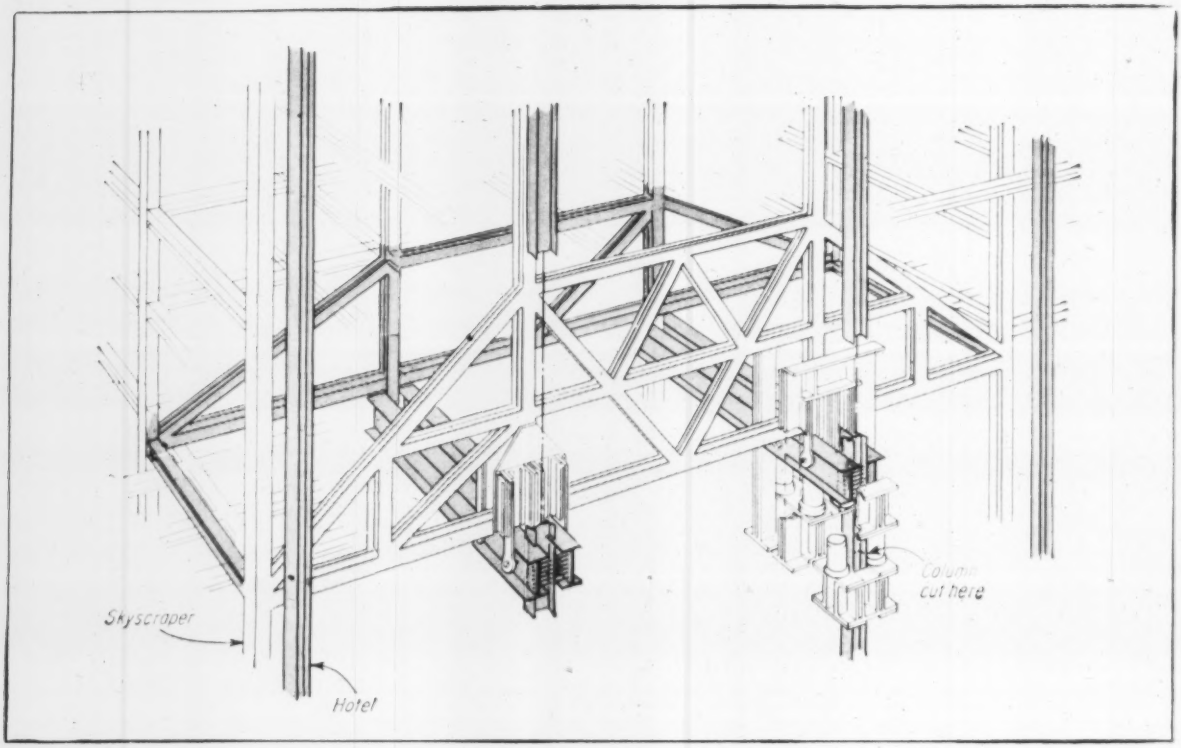
The second set of jacks at each column eliminated the problem of movement in the hotel superstructure as the two columns below the TJ truss were relieved of their loads. A 65-ft section of hotel column was formerly under compression from the fourth floor down to the foundations. This compression amounted to about ⅜ in.—too much to allow the transfer point to rise before coming to a no-load condition.

Two steel frames were bolted one above the other on each column just below the transfer point. Two 500-ton capacity jacks were set between the two frames and loaded equal to the column load, relieving the short section of column between the frames. Workers cut a gap through the column at this point. Movement in the column as it was unloaded was taken up in closing the gap.

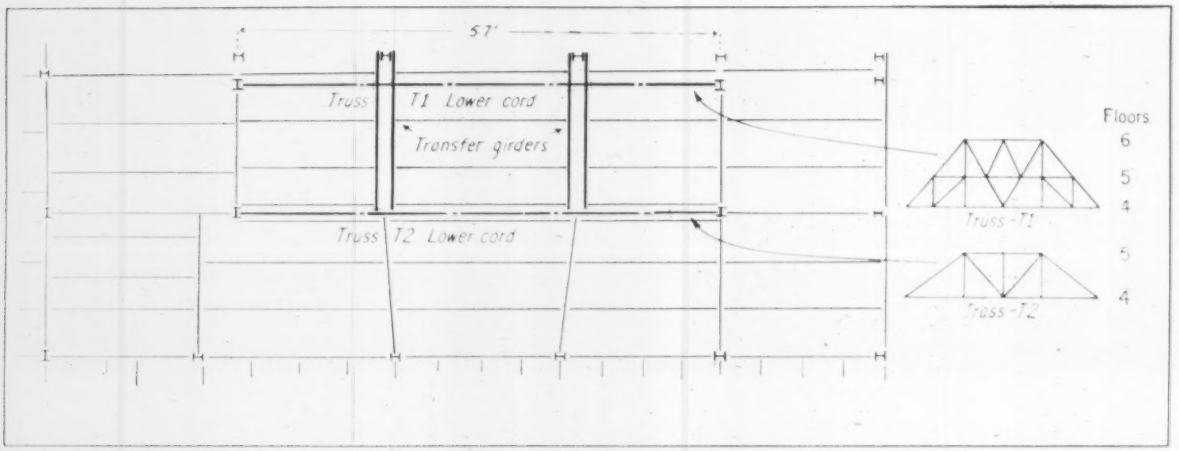
This construction contained all column movement below the transfer point. The lower floors are mostly unfinished service areas.

• **Juggling act**—Steel workers transferred the loads to the office building and restricted vertical movement in the hotel columns above the transfer point by slowly loading the jacks in the suspension yokes and simultaneously relieving the jacks that bridged the gap in the columns.

Rate of loading in the suspension yoke jacks was carefully balanced by load release in the column jacks. Engi-



TRUSSES AND TRANSFER BEAMS are just above ballroom extension in new building. Permanent connection is shown at left, temporary framing and jacks on right. Load transfer was made only after the office building structure was completed.



OFFICE BUILDING FRAMING at fourth floor includes two trusses and two pairs of transfer beams to pick up the hotel column loads. Two-story ballroom extension occupies clearstory below this framing.

neering levels, sighted on reference points on the hotel columns just over the transfer connections, allowed prompt detection and correction of any tendency toward movement in the upper columns during the transfer.

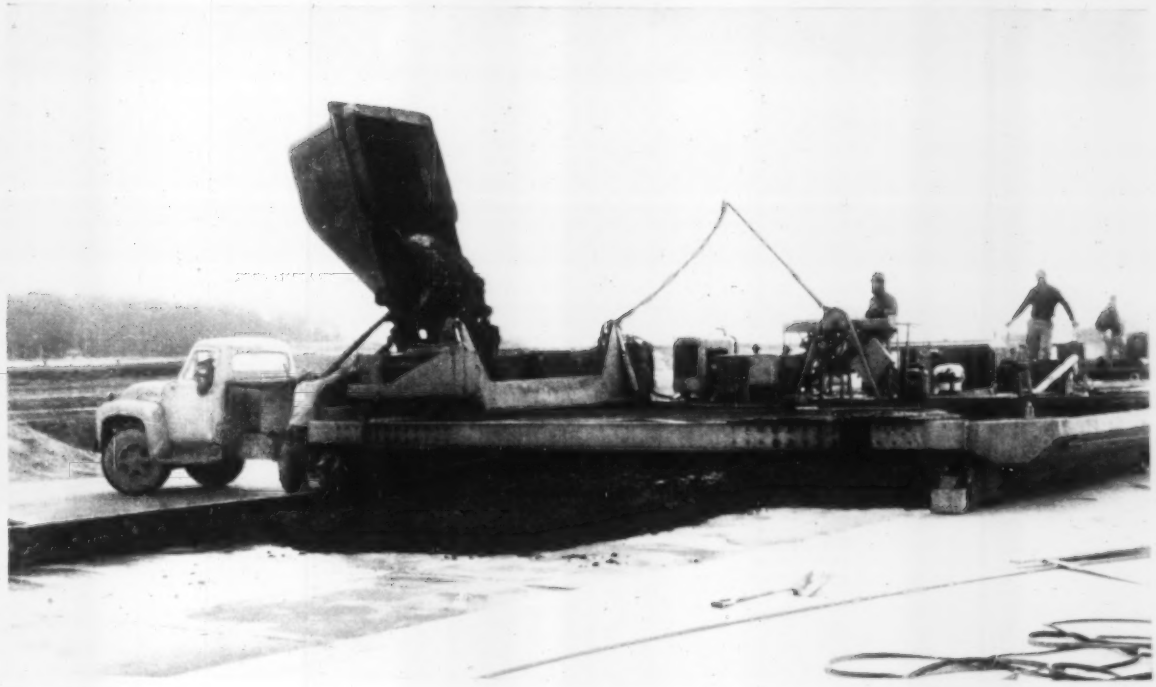
Workers completed the job by drilling and bolting the hangers in position on the main truss. One of each pair of connection angles was shop drilled for bolting. Steel crews used special short drills bucked against adjacent angle connections to drill the suspenders and remaining angles. After bolting, they cut out the freestanding sections of hotel column and removed the temporary framing used for the work. A total of 50 tons of steel was provided for the temporary yokes and column frames, all connected with high-strength bolts.

Total cost of the operation, including eventual interior changes in both the hotel and office building, will be about $150,000.

Emery Roth & Sons is the architect for the new office building. James Rudeman, structural engineer for the building, designed the transfer system and the method of preloading the trusses. Bethlehem Steel Co. designed the jacking system for unloading the columns to prevent vertical movement in the building. Cauldwell Wingate Co. is the general contractor. All are from New York City.

V. C. Spallitta was project manager for Bethlehem Steel Co., the steel contractor. H. L. Lacey was Bethlehem's job superintendent.

RUNWAYS or HIGHWAYS



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1. Rockfill narrows gap.

2. First package of stone splashes into the fast stream.

3. Other gabions are toppled in.

4. Closure is complete with no additional crews.

Money-Saving Gabions Seal Cofferdam

Constructors diverting New Zealand's Waikato River adopted an old but seldom-used method of dumping packaged stones to close the last remaining gap.

The diversion job was in preparation for construction of the 11,200-kw Ohakuri power project.

In an area where supplies of large rock were unavailable, the dam builders pinched off the last flow (an average 4,000 cfs) without adding manpower or extra equipment. Here's how:

They erected steel-mesh, basket-type containers, 3x3x10 ft, and made them rigid by wedging timber planks in the bottom corners. Filled with selected rock handpacked in the oblong basket, they formed gabions of two tons.

Workers then wired these units in groups of 16 and placed them in readiness on the right-bank edge of the gap.

The river was 100 ft wide at the closure point with an average flow of 7,000 cfs. Manipulating control gates at the Lake Taupo headwaters reduced this flow to between 3,500 and 4,500 cfs. A diversion tunnel (25 ft dia, 1,530 ft long) already drew part of the river flow.

The engineers' objective: a river barrier 20 ft wide at the top, with a maximum height of 55 ft and maximum base width of 200 ft.

After 8,000 cu yd of fill were in place, the channel was trimmed to 40 ft. The

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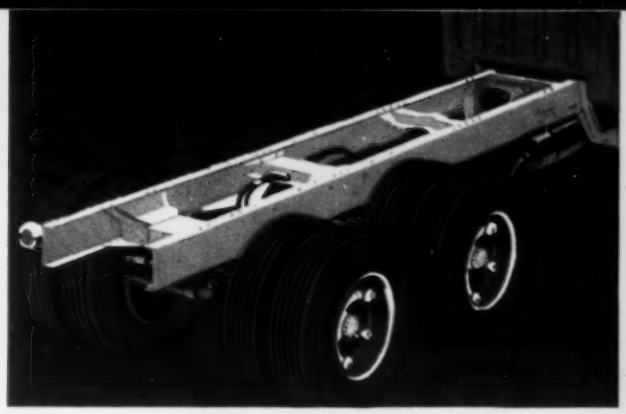
The biggest forward surge of its kind in trucking history, Operation "High Gear" is backed by the keenest brains and manufacturing know-how in the business. And, it's gaining speed with every passing day! GMC Truck & Coach—a General Motors Division.

Turn the page and see how Operation "High Gear" can pay off for you!

Light-duty GMC s are truck-built, too! A quick comparison will convince you there's no pickup for rugged construction work like GMC. Test the tailgate with one end unhooked. Two men can't make it sag. Check the front crossmember — same as on bigger GMC's. Note GMC's big displacement *truck* engine.



Rugged reinforced frames give GMC s backbone! GMC frames are built with *extra* brawn to withstand the shocks, twisting and stresses of heavy hauling over rough terrain. Where required, heat-treated frames and strategic reinforcing are used to give added strength without extra weight.

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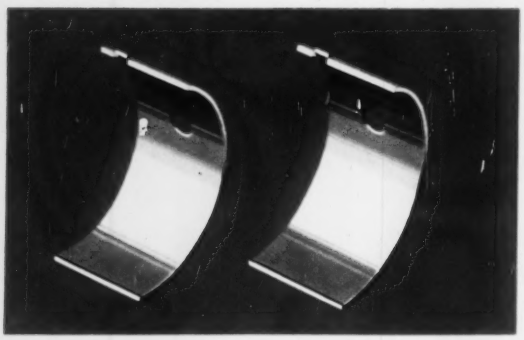
ECONOMICAL DIESEL POWER FOR ANY CONSTRUCTION JOB!

ENGINE MODEL	GMC 4-71	GMC 6-71SE*	
Gross HP at RPM	152 at 2300	189 at 1800	210 at 2100
Net HP at RPM	136 at 2300	175 at 1800	192 at 2100
Gross Torque at RPM	374 at 15-1600	577 at 1200	577 at 1200
Net Torque at RPM	344 at 13-1500	553 at 1200	553 at 1200

* Two power outputs shown reflect governor settings. Also available on request, full power 6-71 developing 235 H.P.

GMC Two-Cycle Diesels combine power and economy. GMC 4- or 6-cylinder diesels are *two-cycle* engines. They pack more power per cubic inch and more power per pound of engine weight, at lower RPM's. *Four* exhaust valves per cylinder (not just one or two) plus GMC's precision fuel injectors give greater economy and efficiency. And, remember, in a GMC both engine and power train are *tailor-made for each other!*

Synchromesh transmissions standard on all construction trucks! No double clutching, grinding gears or extra cost with synchromesh. GMC's smooth Hydra-Matic transmission and new Torqmatic automatic transmission with built-in hydraulic retarder for heavier trucks (available at extra cost).



Extra quality makes GMC engines last! M-400 bearings with 7 times the wear of conventional bearings . . . drilled oil passages in connecting rods . . . only two of more than 10 extra-quality features standard on GMC's!

Biggest choice of chassis and components in the industry! You name it, GMC's got it! From the smallest pickup to the largest tractor, GMC can tailor-make the truck to fit your job. From its wide selection of cabs, engines, transmissions, frames, axles and wheels, GMC can now offer you practically any truck combination you require—all thoroughly tested and proved for reliability and long life.

From ½-ton to 45-ton . . .
General Motors leads the way!

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TRUCKS

last preliminary was to stockpile large boulders on the edge of the left bank, facing the bundled units of packaged rock on the opposite shore.

The final operation began at 5 am on "closure day," when workers pushed the boulders into the turbulent stream. This squeezed the gap to 18 ft by 8:30 am, but velocity in the remaining stream increased so much that even large rocks were being washed away by the rushing water.

That's where the 32-ton packages came in. Cables from bulldozer winches hauled them into the gap. Trucks immediately filled in the chinks between them with individual 2-ton baskets of rock, and dozer crews spread rockfill over the area. Within minutes, the last opening was closed.

By 10 am the rock fill had been bulldozed over and around the gabions and closure was complete. The cofferdam was later built up to 70 ft in height, 40 ft wide at the top.

Equipment used included two 2½-cu yd shovels, 10 dump trucks on a 1,500-ft run and four bulldozers, two with blades and two with winches.

To get ahead of the river's flow by the normal fill-placing method would have required much bigger teams of men and more heavy equipment.

The packaged-stone method got the same results with the men and equipment on hand, kept costs down.

The Ohakuri project will include a 160-ft-high earthfill dam. Its crest will be 260 ft long.

Russia Ups Highway Goals In New Seven-Year Plan

Russia's new seven-year plan has as one of its goals the construction of 6,200 miles of super-highways annually through 1965. This objective is more than three times larger than the target for highways during the past seven-year plan.

According to Soviet plans, four-lane highways will link Moscow with Gorki, Kiev, Kuibyshev, Riga and Stalingrad. Similar superhighways will be built between Kuibyshev and Chelyabinsk and between Kazan and Sverdlosk.

New long-distance highways are scheduled in Kirghiz, Uzbekistan and European Russia.

The expansion of the Russian road network will be accompanied by increases in the field of motor transport. The load capacity of trucks is to be raised by 40% and the number of buses is to increase more than four times.

For more information on the role of the construction industry in Russia's new seven-year plan see ENR Nov. 27, 1958, p. 23.

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■ PATH surveying instruments—now introduced for the first time throughout this country by Bruning – not only look expensive but they outperform many higher priced instruments.

They have been added to the famous Bruning optical line because they offer one of the rarest surveying values available. They have been thoroughly tested and evaluated by experts in the surveying field.

The optics in PATH instruments are unsurpassed by any instrument in any price range! Japanese lenses, now recognized as among the finest in the world, provide superior definition, distinct and powerful magnification, unwavering accuracy. The instruments are built of the finest materials available under extremely high quality control standards. They have proved their dependability under extreme field conditions of heat, cold, and dust.

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Chilly days and cold nights can upset your spring pouring schedules. That's why it's important to treat your mix with Columbia Calcium Chloride. This all-weather set accelerator helps you "stay on schedule" three ways:

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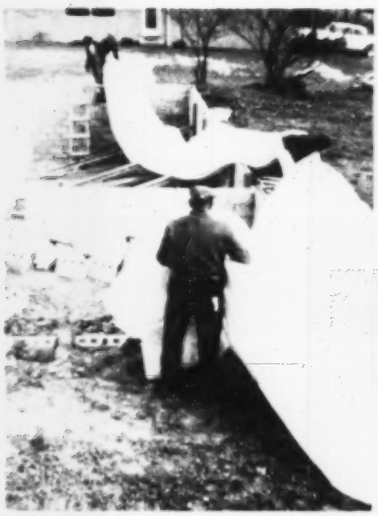
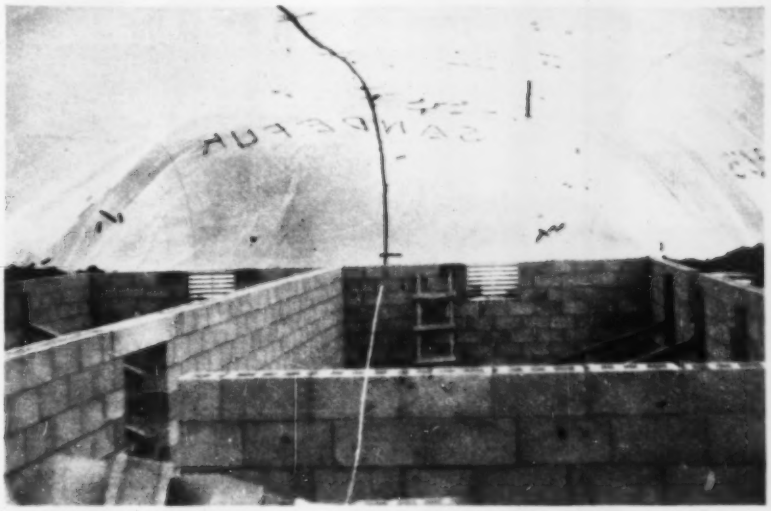


Workers cover the job . . .



and finish foundations inside when . . .

Builder's Bubble Shuts Out Winter Trouble

Plenty of air and just two rolls of polyethylene film were all that was needed to shelter a Columbus, Ohio, house site so foundation construction could go on in cold weather.

Development builder Sandefur & Sons constructed the huge bubble from two 100-ft-long rolls of 6-mil film. Sheet edges were sealed together with a conventional iron; a flattened cardboard carton served as a ironing board, and a thin pressing cloth prevented the film from sticking to the iron.

A 15-in. blower keeps the bubble inflated, while rocks and earth secure it around the house foundation. Workmen enter the protective dome through a slit in its side. Concrete blocks hold the overlap at the opening.

Total cost including both labor and material is about $100 when used on a series of houses. Actual dollar savings are hard to estimate, but John Sandefur, Jr. says, "This method assures that workers are always on the job and don't lose time because of bad weather."

During the time the enclosure was used, very strong winds produced only small tears in the dome. Workmen patched these easily with tape.

Translucent as well as strong, the shelter admitted natural light and heat. On the coldest days, only a single 125 Btu portable oil heater was needed.

The 25-ft-wide rolls of Visqueen film were supplied by Columbus Builders Supply Co. Visqueen film is a product of the Plastics Division of Visking Co., a division of Union Carbide Corp.

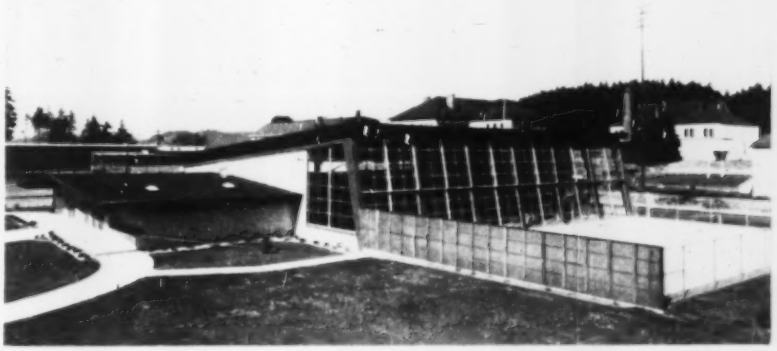
Prize Swimming Pool Is Under Glass

The new $325,000 municipal swimming pool of North Bend, Ore., has been judged the outstanding pool of its type constructed in 1958, by the magazine Swimming Pool Age.

The completely enclosed facility was designed by Stevens & Thompson, Portland consulting engineers. Enclosing the pool permits all year operation; North Bend fronts on the Pacific Ocean, and summer weather seldom goes above 75 F. When hot days do come along, glass doors can be opened.

The pool is U-shaped. One leg is 25 meters long; it has 5 racing lanes and a diving area. The base of the U is 25 yards wide; it also has 5 racing lanes. The other leg is shallow for beginning swimmers.

The pool is spanned by glued laminated timber bents that are sloped for architectural appearance. A timber cross girder provides mid-span support.



Construction was financed by a $325,000 bond issue approved by North Bend's voters by a 9-1 margin. The dollar amount is considered outstanding for a town of 8,500 population. Land was provided by the North Bend School District, which operates the pool for both school and public use under contract with the city.

Proved Cost Saver

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Helps reduce checking, cracking, spalling.

Produces harder, dust-free surface.

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A proved bond breaker for pre-cast, tilt up and lift slab construction. Permits easy, clean separation of slabs, walls, pre-cast members.

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Conventional equipment puts down overlay of . . .

'Almost Indestructible' Surface

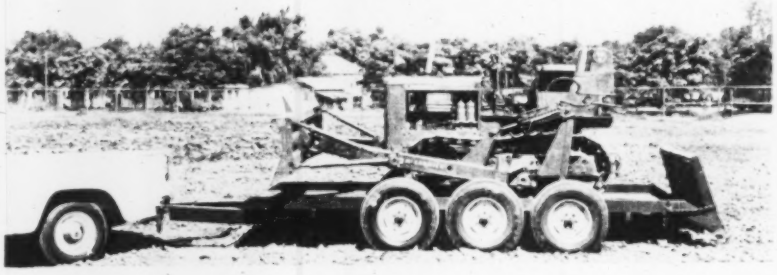
A plastic-and-asphalt paving overlay that is "almost indestructible" has been developed by Shell Oil Co. The company's epoxy resin, Epon, is combined with asphalt and a plasticizer to make a tough and durable surfacing material.

The "Epon Resin Asphalt Concrete" withstands hot jet exhausts, spilled jet fuel and high tire pressures, the developers state. Although present cost of the material is high, Shell engineers believe mass production methods being developed will eventually make it a contender for all pavement used by jet aircraft, including the runway ends and warmup pads asphalt must now concede to portland cement concrete.

The strong, resilient surfacing is also recommended for highways and warehouse floors—or wherever else there is lots of wear and tear.

No special equipment is needed to place an overlay of the material on either new construction or old pavement. Conventional hot-mix plant, spreading and finishing equipment is used.

First commercial application of the "concrete" was made last month at San Francisco International Airport. Three and one-half acres of conventional asphalt surrounding United Air Lines' jet maintenance base were covered with ¾-in. overlay. Shell Oil Co., 50 W. 50th St., New York 20, N. Y.



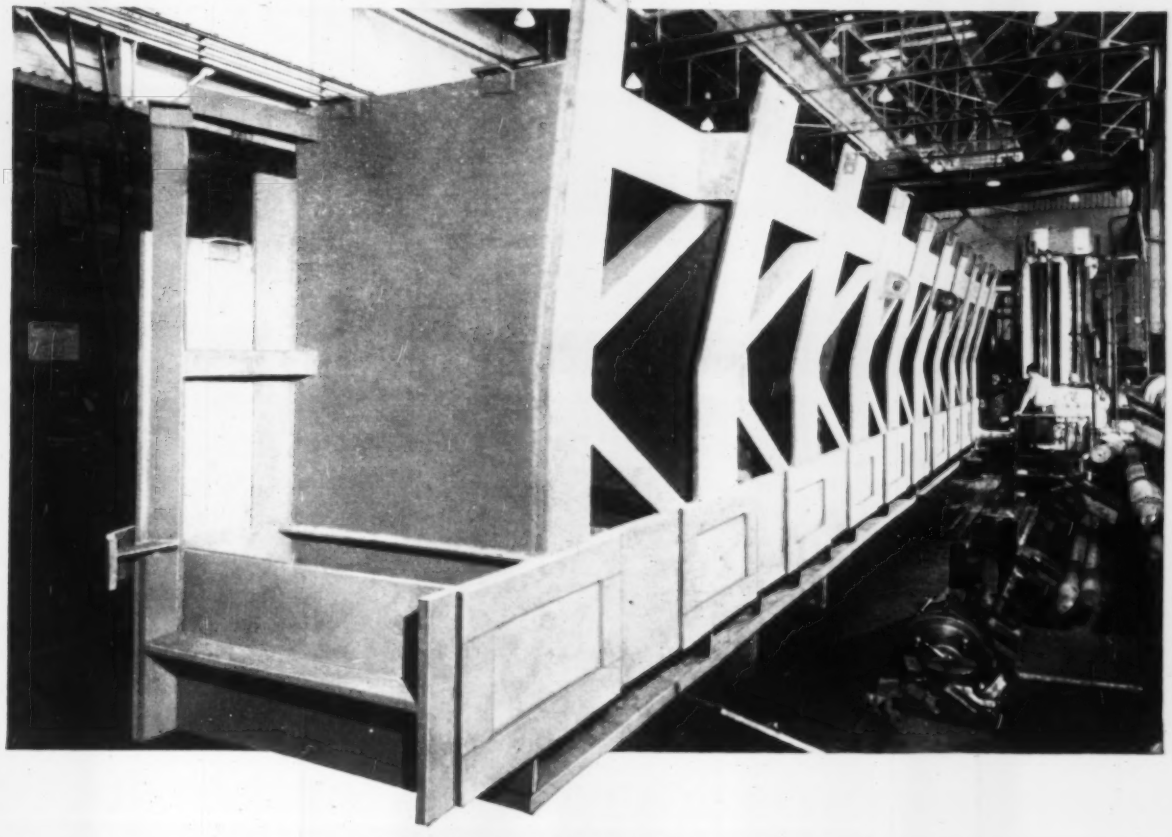
Low-Bed Takes the Bumps

A six-wheel, low-bed trailer for hauling construction machinery features independent wheel suspension for easy movement over rough ground. The rubber-tired rig is rated at 15,000-lb capacity.

The trailer, International 150, is equipped with rubber-mounted torsion axles that act as spring and shock absorber. The loading ramp also serves as tailgate.

Overall width is 8 ft, length 21 ft. Weight is 1,900 lb. Two-, four- and six-wheel electric brakes are optional. International Harvester Co., 180 N. Michigan Ave., Chicago 1, Ill.

STEEL-WELD FABRICATION . . .



MASSIVE STEEL COMPONENTS for Heavy Construction Projects!

The massive Steel-Weld Fabricated unit being machined above is one of two Reaction Girders for a 390-Ton Vertical Lift Gate . . . wheel brackets will be attached to machined surfaces. The complete Lift Gate was fabricated, machined and test assembled by Mahon for checking prior to shipment in sections to a Lock Site in the St. Lawrence Seaway.

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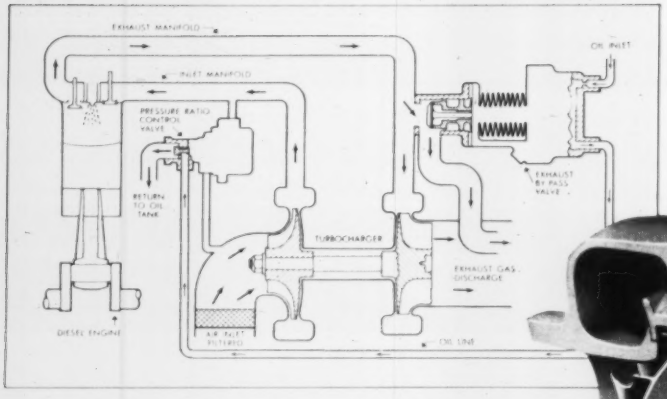
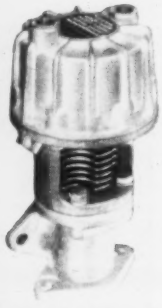
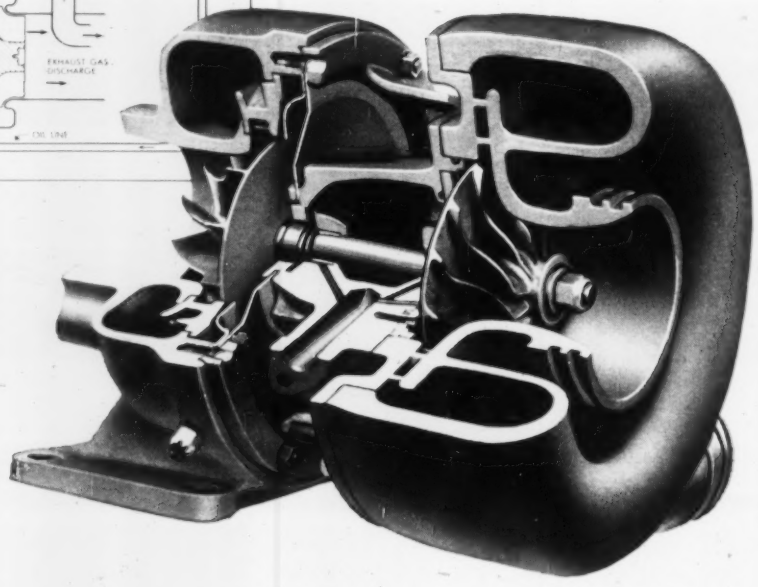


Pressure ratio control valve



Exhaust by-pass valve



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Retiring Partners: Stephen F. Voorhees . . .

and Ralph Walker

Taking Over: Charles Haines, Perry Coke Smith, Benjamin Lane Smith

Famous Firm Gears for Future

Last November the name of a famous architectural partnership became Voorhees Walker Smith Smith & Haines, the sixth name change since its founding in New York City in 1885.

On New Years Day, the two oldest partners, Stephen F. Voorhees and Ralph Walker, withdrew from active participation, leaving the management in the hands of the three younger partners. But this time the name won't be changed.

With these developments, one of the oldest architectural firms in the country, and one of the largest and best-known, sets its sights on a future in keeping with its illustrious past.

The challenge is a worthy one because the firm's achievements include many of the nation's outstanding buildings. To name only three, which have stood the test of time: the New York Times Tower in Times Square (1902); the New York Telephone Headquarters Building (1926); and the One Wall Street Building of the Irving Trust Co. (1931).

Over the years, too, the firm has become a leader in the design of buildings for special scientific services—585 for the New York Telephone Company alone, 155 for New Jersey Bell and, lately, many of the remarkable research centers with which American industrial companies have been equipping themselves.

To these can be added numerous hospitals and educational buildings as well as office structures for such current diverse clients as the Atomic Energy Commission, the AFL-CIO, the Prudential Insurance Co., the National Bureau of Standards and the Caterpillar Tractor Co.

Total projects, large and small, handled over the firm's life span to date approach the 5,000 mark.

• **By any other name**—Unlike commercial enterprises, which generally retain their founding names for the duration of their existences, Voorhees Walker Smith Smith & Haines is the seventh different name under which the firm has conducted its 74-year practice.

It is the firm's custom to make its name identify its principals. Therefore,

The new lift span on the Celilo Bridge over the Columbia River is being raised to permit river passage. Westinghouse supplied all the major elements of the electrical system, which can raise the span to 75 feet above mean high water in 90 seconds.

Sid Brown, Westinghouse sales representative, at right, is shown discussing approval of electrical control system with Mr. Don Thomas, assistant engineer of structures for Spokane, Portland and Seattle Railway; Mr. Glen Emory and Mr. Ed Bohm, partners of Emory and Bohm, electrical contractors.

Celilo Railway Lift Bridge uses new Westinghouse static skew control

When construction of the Dalles Dam caused the Columbia River to rise closer to the deck of the Oregon Trunk Railway's Celilo Bridge, it became necessary to build a lift span to let river traffic pass beneath. A Westinghouse d-c adjustable-voltage drive, incorporating static skew control, was installed to provide smooth acceleration and a precise regulating system to keep the span level.

Set between two towers, the span is counterweighted and suspended by wire ropes passing over sheaves at the top of each tower. Two Westinghouse d-c mill motors in each tower drive the sheaves and are electrically synchronized by the d-c adjustable-voltage system to keep the span level when operating. The various operations are so interlocked that they must follow a predetermined sequence to assure maximum equipment and personnel safety. The skew control equipment has safeguards against abnormal conditions and requires minimum maintenance.

Westinghouse equipment used on the Celilo Bridge includes: the main d-c drive motors, brakes, motor-generator, control regulating exciters, control board, an operator's console, emergency drive a-c gearmotors and a 225-kva outdoor power center.

Westinghouse, as sole supplier of the coordinated electrical system, assumed undivided responsibility for its overall operation. For further information showing how this complete, single-source supply can benefit you, contact your Westinghouse electrical construction engineer, or write: Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pennsylvania. J-94116

Owner: Oregon Trunk Railway (Operated by Spokane, Portland & Seattle Ry.)
Consulting Engineers: Howard, Needles, Tammen & Bergendoff, Kansas City, Mo.
General Contractor: Kansas City Bridge Co., Kansas City, Mo.
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Electrical Contractor: Emory and Bohm, Portland, Oreg.
Westinghouse Distributor: Westinghouse Electric Supply Company, Portland, Oreg.

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Over 250 Pages Westinghouse Data in Sweet's Construction File.

Chief operator, Champ King, at Westinghouse control desk. This desk centralizes the starting and stopping of railway traffic, selection of normal, auxiliary or emergency power supply, normal or emergency drive system and control of the lock and lift span.

Mr. Brown and Mr. Thomas inspect the interior of the main control cabinet which houses the Magamp* regulator panel and Rototrol* elements of the bridge control system.

*Trade-Mark

Mr. Bohm and Mr. Thomas examine the Westinghouse 33-hp Type MCA d-c mill motors, designed for heavy intermittent duty, which drive the main span machinery located at top of each tower.

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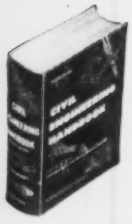

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the name has been altered upon the death or retirement of a partner, or the addition of new partners.

The firm was started as a one-man practice by Cyrus L. W. Eidlitz, a great architect of his day and the son of a famous architect. It became the partnership of Eidlitz and McKenzie in 1900.

In all the change since, only nine men have been involved.

In 1910, when Mr. Eidlitz retired, Mr. McKenzie and two associates of the firm, Mr. Voorhees and Paul Gmelin, formed the partnership of McKenzie, Voorhees and Gmelin. After Mr. McKenzie's death in 1926, Ralph Walker joined the firm, and the name became Voorhees Gmelin and Walker.

Twelve years later, with the addition of Max H. Foley and Perry Coke Smith, the name was changed to Voorhees Walker Foley and Smith. Upon Mr. Foley's retirement in 1955, a second Smith was added—Benjamin Lane Smith, who had been a partner for 10 years. The firm name became Voorhees Walker Smith and Smith. The newest change adds the name of Charles Haines, who has been with the firm since 1932.

One name—Voorhees—has remained on the letterhead for nearly 50 years and another—Walker—for half that long. Now, although the names will remain, the men will be absent. This milestone in the firm's history is thus different from any in the past.

• **Prestige and confidence**—"This is a firm that will continue as if nothing had happened," a member of another firm comments. Steve Voorhees and Ralph Walker have been preparing for this day for years—building prestige by their personal activities, developing successors, fashioning an organization with depth in every specialty and creating confidence on the part of every client they have served."

Such an appraisal is worth analysis. As to prestige, satisfied clients are, of course, the greatest contributor, but both Mr. Voorhees and Mr. Walker have gone beyond good client service. They have accepted many broad leadership responsibilities in the profession and in public service. Both have been president of the American Institute of Architects. Both have served on national commissions concerned with building and architecture, and both have been decorated by foreign governments.

During the depression days of the Thirties, Mr. Voorhees, as chairman of the Construction Industry Code Authority of the National Recovery Administration, became as widely known as any architect ever has, and received widespread plaudits for his work.

Mr. Walker, in the same era, began to interest himself in housing and slum clearance, an endeavor in which he is now a national figure. Since 1953 he has been a member of the President's Committee on Housing Program, and he is also a member of the State Department's Advisory Board on Design of Foreign Buildings.

Interestingly enough, Mr. Voorhees is a graduate civil engineer (Princeton, 1902). He is also a member of the American Society of Civil Engineers and the American Society of Mechanical Engineers. Mr. Walker, who studied architecture at Massachusetts Institute of Technology (class of 1911), served in an Engineer regiment in World War I, as did Mr. Voorhees.

There may be no connection, but the firm has always had its own engineering staff instead of using consultants—a more usual practice among New York architects. In this same vein, the firm's longtime interest in hospital design could have stemmed from Mr. Voorhees wartime experience. He was in charge of hospital design in the U. S. Army's Office of the Surgeon General.

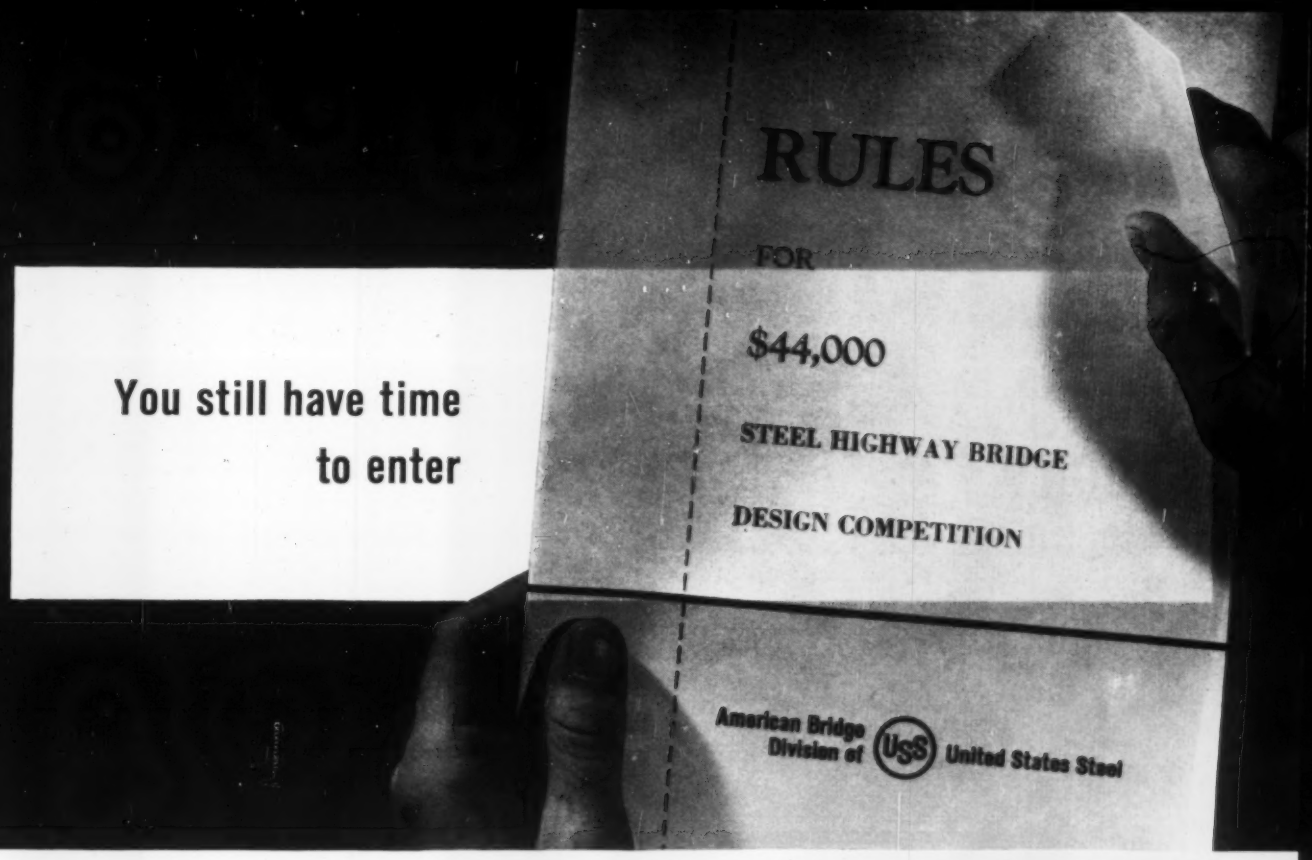
• **The other partners**—Although Mr. Voorhees and Mr. Walker are the veterans of the firm, the men they have developed to carry on the partnership are by no means inexperienced in the technology or the management phases of the business.

Perry Coke Smith joined the firm in 1926, Charles Haines in 1932 and Benjamin Lane Smith in 1937.

A chemical engineering graduate of the University of Wisconsin in 1918, Perry Coke Smith returned from World War I to graduate in architecture from Columbia University. All types of projects have come under his direction, and he is the firm's housing expert, after Mr. Walker.

Benjamin Lane Smith received his architectural education at the University of Illinois, the Massachusetts Institute of Technology and the Fontainbleau School of Fine Arts in France. An authority on hospital design, he has also been the chief architect on many other jobs, including the Ford Research and Engineering Center in Detroit.

Charles Haines holds architectural degrees from both the University of Kansas and Columbia University and also studied at Fontainebleau. In his 27 years with the organization he has handled all manner of projects, with much recent experience concentrated on the design of industrial research



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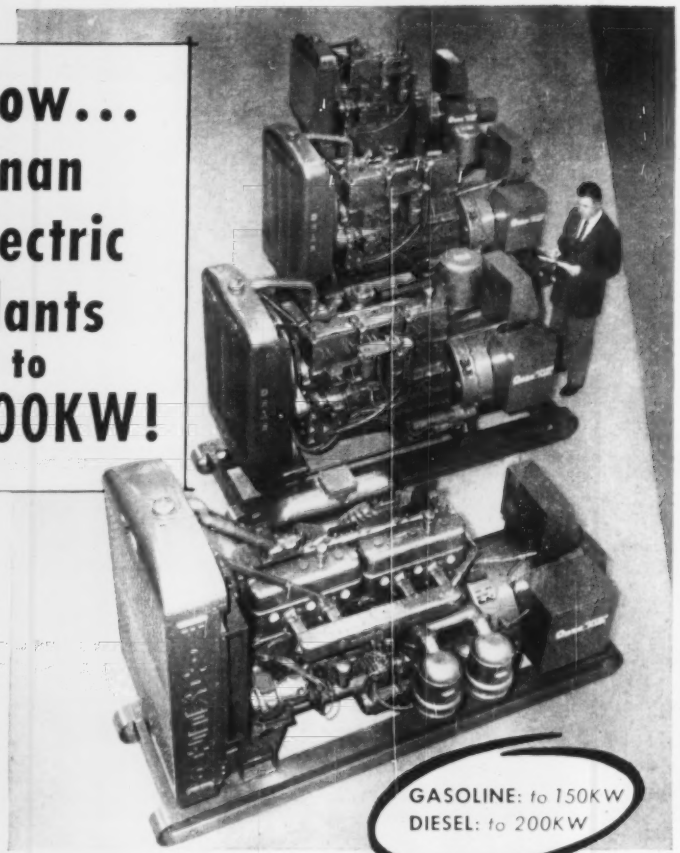

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facilities. He was most recently in charge of the new headquarters building for the Atomic Energy Commission in Germantown, Md., and prior to that on work connected with the Argonne National Laboratory in Chicago and the Savannah River plant of the AEC.

• **Backing the partners**—Six associates with firm experience ranging from 10 to 20 years back up the top men and share many of their duties. This depth of management gives the firm unusual strength and flexibility. Every project is assigned to one of the senior partners, who is assisted by one of the associates or a project manager with the required specialized talents.

And except for power generation sanitation and some foundation aspects of a project, on which consultants are used, all phases of design assignments are handled by the firm's staff. Inherent to this method of conducting a project is a mobility permitting the firm to apply the same quality of services, regardless of whether the project is in the $100,000 class or runs into the millions.

Since the firm has executed projects with a value totaling in excess of $750 million during the past 10 years, staff personnel has usually been at the maximum level. This is measured by the space for 655 technical people in the firm's offices at 101 Park Ave., New York, and at 2100 Hunters Point Ave., Long Island City. Supplementary office and field help has frequently brought the payroll to 800 people.

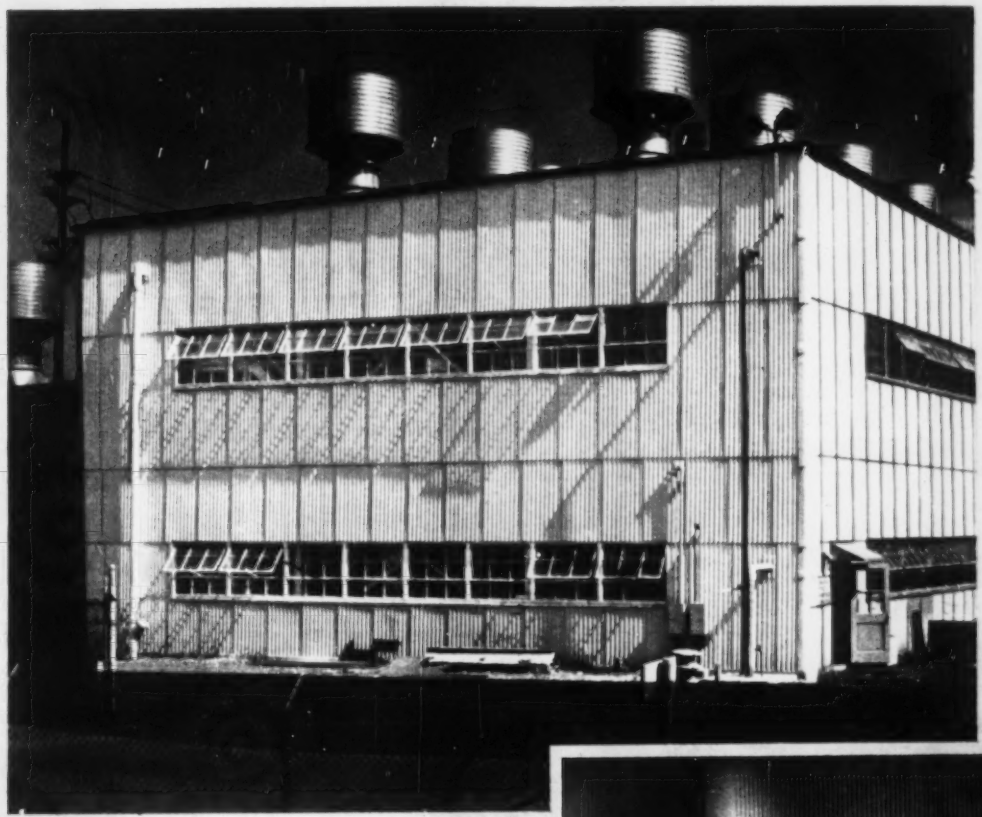
Voorhees Walker Smith Smith & Haines enters its next phase of growth with all of these assets, plus the continuing advice of Mr. Voorhees and Mr. Walker, who will now serve the firm as consultants. The value of projects currently under design totals an impressive $250 million.

R. B. McRae Named Chief of Denver Water Board

R. Bruce McRae has been appointed chief engineer of the Denver Water Board to succeed John Burgess, who has retired.

He was resident engineer on the Gross Dam project in South Boulder Creek from 1951 to its completion in 1955. Before the Gross Dam job he was chief engineer on the Bull Shoals Dam project, in northern Arkansas.

Mr. McRae received a civil engineering degree from the University of North Carolina. He has worked on heavy construction projects for Howard, Needles, Tammen and Bergendoff of Kansas City, and the Cummins Co., New York City.



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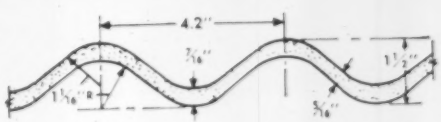

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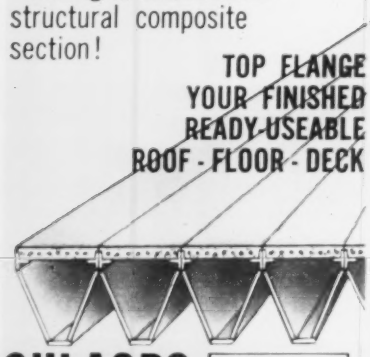

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Unclassified excavation, 199,350 cu yd at 60¢ a yd, accounts for 27% of this $442,581 contract for improving 6.16 miles of 2-lane roadway through mountainous forest land in Otero County, N. M.

The award to Wayne A. Lowdermilk, Espanola, N. M., by the New Mexico State Highway Dept. is only 1.3% below the engineer's estimate, but it is 19.4% below the high of nine bids. It averages $71,848 a mile.

The first stage of improvements on the road between Cloudcroft and the Mescalero Indian Reservation, the job includes grading, drainage, base course and bituminous surface treatment. It is to provide access to the site of Solar Furnace, to be constructed shortly.

Class A concrete must contain a minimum of six bags of cement per cu yd and must attain a compressive strength of 3,000 psi in 28 days.

Wages include: prevailing—carpenter $2.75; roller operator, tamping $2.15; pneumatic tired $2.05; steel tired $2.65; minimum—tractor operator $2.65; common laborer $1.75.

1C Wayne A. Lowdermilk, Inc., Espanola, N. M.	$442,581
2 Haake Constr. Co., Inc., Santa Fe, N. M.	470,065
9 J. W. Jones Constr. Co., Albuquerque, N. M.	549,153
EE New Mexico State Highway Dept., Santa Fe	448,593

Bids: 12-30-58 Items	Unit	Quantity	Unit Prices 1C	 2
Old structures remov	ls	job	$5,500	$4,500
Obstructions remov	ls	job	3,500	350.00
Clear & grub	ls	job	50,000	17,000
Excavation, unclassified	cy	199,350	0.60	0.90
Watering	Mgal	11,905	0.50	0.10
Rolling, tamping roller	hr	530	5.00	5.00
pneumatic tired	hr	600	7.00	3.00
steel tired	hr	210	8.50	5.00
50 ton operation	hr	705	5.00	6.00
Mechanical tamping	hr	836	6.00	3.00
Station yard overhaul	sta yd	279,993	0.02	0.02
Haul, ¼ mile yard	¼ mi yd	105,715	0.05	0.04
ton mile	t mi	293,050	0.08	0.04
Old road obliterate	mi	0.4	500.00	300.00
Underdrain, perf cor metal pipe, 8"⌀	lf	910	6.00	3.00
Cattle guard, 30' roadway	ea	6	3,000	2,900
Fence, galv barbed wire	lf	12,500	0.30	0.25
Gates, Texas type	ea	3	30.00	5.00
standard type	ea	1	60.00	50.00
Bracing	ea	22	15.00	8.00
Markers, right of way	ea	198	10.00	6.00
std Fed Aid project, tp 1	ea	2	50.00	50.00
Warning posts, treated timber, refl, 6"⌀	ea	387	7.50	8.00
Subbase, contr gradation	t	47,945	1.00	1.30
Base course	t	18,835	1.40	1.50
Bituminous matl, tp MC-1	bbl	1,135	2.25	2.25
120-150	bbl	1,555	8.00	2.50
Emulsified asphalt AE-3	bbl	215	8.20	9.00
Cover material	t	3,565	1.00	1.25
Conc, cl A	cy	98.97	85.00	70.00
for blankets	sy	475	12.50	10.00
Reinf for conc structures	lb	3,325	0.20	0.18
Reinforcement, wire fabric	lb	1,795	0.35	0.35
Grouted rock retards	cy	234	25.00	20.00
CM culv pipe, 72"⌀, bevel	lf	250	27.00	28.00
78"⌀, bevel	lf	136	26.00	31.00
Culvert pipe, 24"⌀	lf	1,778	7.00	6.25
30"⌀	lf	2,050	8.20	7.50
36"⌀	lf	360	11.75	12.00
42"⌀	lf	118	13.70	14.00
48"⌀	lf	526	15.50	16.00
Struct plate pipe, 108"⌀ bevel, gage 5|2 110	lf	104	60.00	60.00

Completion schedule: 175 working days
Liquidated damages: $100 day

Clay Pipe Sanitary Sewers for St. Louis Area

Approximately 9,170 lin ft of 8- and 12-in. sewer pipe, mostly vitrified clay, some deep rock work and two tunnels are involved in this contract for lateral sanitary sewers in the East Iveland area of Overland, Mo.

The $90,981 award to Nash Construction Co., Kirkwood, Mo., by the Metropolitan St. Louis Sewer District, is almost 34% below the high of the seven bids. Stevens, Lopinot & Weber, St. Louis, is the consultant.

If the tunnels are drilled, the contractor may use some cast iron pipe; if the tunnels are bored, he has the option of using vitrified clay pipe encased in concrete.

A dispute with the State Highway Department over the location of a highway delayed start of the work.

Crane operators (multi-drum type), trenching machine operators, truck drivers and sewer laborers will be employed on the project. Prevailing wages range from a low of $2.725-$2.85 for common laborers, through $3.125 for semi-skilled—to a high of $3.675-$3.875 for skilled laborers.

1C Nash Constr. Co., Kirkwood, Mo.	$90,981
2 Fred M. Luth & Sons, St. Louis, Mo.	97,299
7 Crow Contracting Co., St. Louis, Mo.	137,659

Bids: 11-18-58 Items	Unit	Quantity	Unit Prices 1C	 2
Excavation, cl B	cy	375	$6.30	$5.62
cl C	cy	7,850	3.30	2.81
Stanking	lf	150	13.20	13.48
VCP sewer, compl, 8"⌀, ASTM C 13	lf	2,600	2.62	3.09
C200	lf	6,500	2.62	3.31
Y junct, 6", on 8" pipe, C 13	ea	49	3.30	3.93
C200	ea	135	3.30	3.93
VCP sewer, compl, 12"⌀, ASTM C13	lf	190	3.30	3.93
Manhole construction, standard	vf	410	25.00	25.00
Cast iron	lb	18,000	0.14	0.15
Lumber ordered, left in trench	Mfbm	16	50.00	50.00
Granular bkfl	cy	1,300	3.50	3.00
Cr limestone & screenings	t	450	3.50	3.75
Added cost of laying pipe in tunnel	lf	100	11.00	50.00
Asph conc wearing surface	sy	1,760	2.75	3.00
Grav shoulder replacement	sy	235	3.15	3.00
Spec stormwater intake, compl	pl	1	125.00	200.00
Concrete, cl B	cy	2	35.00	50.00
Conn to existing manhole, 12"	pl	1	55.00	75.00
District payment to Overland for street backfilling	ls	job	5,000	5,000

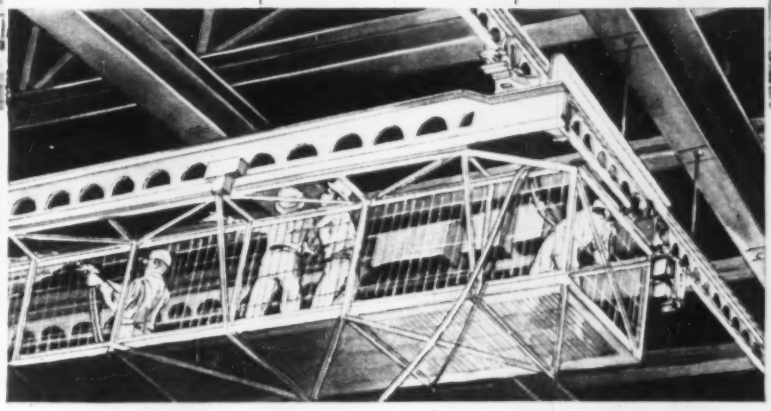
pl Place Completion schedule: 250 cal days

Tramrail Bridge Traveler **Effects Big Savings**

All sections underneath easily reached for thorough painting.

Careful periodic inspections can be made regularly at low expense.

Installation of wiring, piping, etc., easily made and maintained.



Cleveland Tramrail Traveler Systems are available for various bridge designs and constructions. They have been supplied for both manual and motorized operation. Traveler platforms usually accommodate several workers. Protective fencing provides safety.

DURING erection of a bridge, and later for inspection and maintenance, a Cleveland Tramrail Bridge Traveler System can provide sizeable savings.

For the bridge contractor, a Cleveland Tramrail System can greatly speed erection, if installed soon after the main bridge trusses have been set into position. It is a tremendous aid in the assembly of many structural members, for the placing of concrete forms, for installation of conduits, piping, wiring and for painting. Time savings from this work makes it profitable for a contractor to install a Tramrail Bridge System even if not included in the contract.

After the bridge has been completed, a bridge traveler is still mighty valuable and continues to pay dividends. It permits easy, quick inspection of the underside of the bridge. Painting, sandblasting and other maintenance jobs are expedited.

For lower costs on that next bridge job, install a Cleveland Tramrail Bridge Traveler System.

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Materials and Labor Prices

Market Quotations by ENR Field Reporters

See following ENR issues for OTHER PRICES:

- Wood Products, Glass, Explosives, Chemicals: Last, Jan. 22; Next, Feb. 19
- Clay Products, Lime, Plaster, Paint, Roofing: Last, Jan. 29; Next, Feb. 26
- Wage Rates, Building Board Lath, Insulation: Last, Jan. 29; Next, Feb. 26
- Cement, Aggregate, Ready-Mixed Concrete, Asphalt: Last, Feb. 5; Next, Mar. 5

IRON AND STEEL PRODUCTS — PER 100 LBS. BASE MILL PRICES

	STRUCT SHAPES	PLATE CARBON STEEL	REINF BARS* billet	RIVETS ½-in. structural	SHEET PILING Base	STEEL RAILS Per Net Ton Standard	STEEL RAILS Per Net Ton Light	TRACK SUPPLIES Angle Bars	TRACK SUPPLIES Std Spikes	TRACK SUPPLIES Tie Plates	TRACK SUPPLIES Track Bolts
Birmingham Area	$5.50	$5.30	$5.675	$12.25		$110.50	$130.00	$6.975	$9.75	$6.60	.....
Chicago Area	5.50	5.30	5.675	12.25	$6.50	110.50	130.00	6.975	9.75	6.60	.....
Pittsburgh Area	5.50	5.30	5.675	12.25	6.50	110.50	130.00	6.975	9.75	6.60	$14.75
Buffalo Area	5.50	5.30	5.675	12.25	6.50	110.50	130.00	6.975	9.75	6.60	14.75
Cleveland	.....	.....	5.675	12.25	6.50	.....	.....	.....	.....	.....	14.75
Youngstown Area	.....	.....	5.675	.....	.....	.....	.....	.....	9.75	.....	.....
Geneva	5.50	5.30	.....	.....	.....	.....	.....	.....	.....	.....	.....
Los Angeles	6.20	.....	6.375	.....	6.50	.....	.....	.....	9.75	6.75	.....
Pueblo	.....	.....	.....	.....	.....	.....	.....	69.75	9.75	6.60	.....

* Fairless Works, $5.575.

IRON AND STEEL PRODUCTS — F.O.B. WAREHOUSE, PER 100 LBS., BASE PRICE

	STRUCTURAL SHAPES Per 100 lb. base price	STRUCTURAL SHAPES Extras, New York:	REINFORCING BARS Per 100 lb., base price 5 tons to carload lot New billet	REINFORCING BARS Per 100 lb., base price 5 tons to carload lot Rail steel	EXPANDED METAL LATH Per 100 sq. yd., carload lots Std. diamond mesh, 3.4 lb.	EXPANDED METAL LATH Per 100 sq. yd., carload lots Std. ribbed 3.4 lb.	WELDED FABRIC REINFORCING Per 100 sq ft., carload lots fob mill
Atlanta	$9.40		8.75*R*	$8.75*R*	$56.00	$60.00	
Baltimore	9.675		8.70		42.00	46.50	
Birmingham	9.00*t*		8.99*t*	8.99*t*	59.00*p K*	76.00*p K*	
Boston	10.01*s K*		8.75 *K*	8.75 *K*	49.50 *K*	54.00 *K*	
Chicago	9.15*E*		7.16*gu*	7.16*gu*	52.00‡	63.00‡	
Cincinnati	9.56*skt*		9.04*tt*		44.50*mn K*	49.00*mn K*	
Cleveland	9.39*tt*		7.14*tt*		47.50*KL*	52.00*KL*	
Dallas	10.40*M*		9.00	9.00	44.00*pt*	48.50*pt*	
Denver	10.16*s K*		9.25*t*		57.00*n*	63.00*n*	
Detroit	9.56		7.15*g*		55.00	63.00	
Kansas City	9.81*aR*		8.10 *N*		49.00	60.00	
Los Angeles	8.90*dtt*		7.35*tt*		57.00*r*	63.00*r*	
Minneapolis			9.26*t*	9.26*t*	44.50*KR*	49.00 *K*	
Montreal	7.90-8.80*nC* 8.20-8.90*A*		7.00 7.50*FG*	7.00 7.50*FG*	65.70*A*	70.20*A*	
New Orleans			8.00*gktz*		48.50 *K*	53.50 *K*	
New York	9.84‡*s*		8.90*tt*	8.60*y*	52.00*n*	59.00*ne*	
Philadelphia	8.85-9.65‡*tM*		8.93-9.83‡*t*		46.48*t*	48.52‡	
Pittsburgh	9.00*y*		7.35*y*		48.00‡*rw*	52.00‡*rw*	
St. Louis	9.48*stz*		7.75‡*trQ*	7.75‡*trQ*	61.00*rex K*	62.00*rex K*	
San Francisco	9.90*a*		9.85*gS*		52.00*S*	56.00*S*	
Seattle	10.20*tD*		8.85*DM*		67.00‡*nD*	73.50‡*nD*	
Toronto	9.20*H*		7.85	7.85	46.00*qqJ*	49.00 *qJ*	

EXTRAS, per cwt. ◆Quantity applies to L/L shipments only: under 1,000, +$1.80; 1000-1999*e*, +$1.50; 2000-3999*e*, +$1.20; 5000-9999*e*, +90*e*; 10,000-19,999*e*, +60*e*; 20,000-29,999*e*, +30*e*; 30,000-39,999*e*, +10*e*; 40,000# & up, none. ●Size†: #2, #3, +$2.50; #4, +$1.40; #5, +70*e*; #6, #7, #8, #9, #10, #11, +50*e*. ◆Bending: heavy, +90*e*; light +$2.20 except in New York City and surrounding metropolitan area where bending must be done on the job). ◆Engineering details and placing from designs by others: over 500 tons, +45*e*; 200-499 tons, +50*e* but not over $4500; 75-199 tons, +65*e* but not over $2000; 20-74 tons, +75*e* but not over $975; 5-19 tons, +85*e* but not over $300; under 5 tons, +$1.00 but not over $45. Min. charge $25. Design only: +60*e*.

•‡ Delivered. •* Aver. of Canadian & American. •*a* 2000-9999*e* •*b* 10,000-15,999*e*, fob city •*c* 20 tons or over. •*d* 10,000-29,999*e* •*e* Intermediate struct'l •*f* Incl. delivery in free zone •*g* CL •*h* list price; dominion tax exempt; add provincial and municipal taxes •*i* add dominion, provincial and municipal sales taxes •*j* intermediate and hard grade •*k* fob city •*l* delivered; contractor to unloading •*m* copper alloy •*n* LCL •*o* asphalt coated •*p* 500 sq. yd. or more. •*q* 2.5 lb •*r* less 2% disc. for cash •*s* 2,000-4,999*e* •*t* less 1/2% disc. 10 days •*u* add 7.5*e* switch •*v* incl 15*e* del. •*w* truck lots •*x* add 2% sales tax •*y* add 15*e* del. •*z* add 10*e* del. •*A* American made. •*C* Canadian made. •*D* 1.5% for cash; •*E* 30,000*e* or over. •*F* Federal tax exempt for bldgs. •*G* add 10*e* del. •*H* 8.85 without tariff charges. •*J* 3 lb $60.00. •*J* 3 lb $66.00. •*K* less 2% disc. 10 days •*L* F.o.b. Youngstown plant •*M* 5,000-9,999*e* •*N* 2,000-19,999*e* •*O* 100 sy lots •*Q* 5 tons •*R*: revised •*S* less 2% disc. 10th

PLUMBING, HEATING, WATER, SEWER AND DRAIN PIPE

	C.I. PIPE PRICE INDEX*a*	ASBESTOS CEMENT PIPE Z per lin. ft. 6" Press Cl. 150	ASBESTOS CEMENT PIPE Z per lin. ft. 12" Sew Cl. 1500	CLAY SEWER PIPE Per ft., delivered, car load ASTM C13-54 8 in.	CLAY SEWER PIPE Per ft., delivered, car load ASTM C13-54 12 in.	CLAY SEWER PIPE Per ft., delivered, car load ASTM C200-55T 24 in.	CLAY SEWER PIPE Per ft., delivered, car load ASTM C200-55T 36 in.	CLAY DRAIN TILE† Per 1,000 ft., car load lots, f.o.b. ASTM C4-55 6 in.	CLAY DRAIN TILE† Per 1,000 ft., car load lots, f.o.b. ASTM C4-55 8 in.	CONCRETE SEWER PIPE‡ Per ft., delivered ASTMC 14-55 12 in.	CONCRETE SEWER PIPE‡ Per ft., delivered ASTMC 14-55 24 in.
Atlanta	130.5	$1.61 1.69	$2.36 2.48	$0.55	$1.00	$4.50	$12.50	$209.00*x*	$334.00	$0.92*mX*	$3.68*m K*
Baltimore	140.4	1.61 1.69	2.19 2.30	69*S*	1.28	5.08*T*	12.71*r*	187.80	289.20	1.01	2.75*m*
Birmingham	125.8	1.61 1.69	2.26 2.37	48*e*	90*e*	3.88*eyz*	10.50*eyz*	273.00*mz*	462.00*mz*	1.25	2.75
Boston	143.5	1.63 1.71	2.19 2.30	78*sprtU*	1.51*2prtU*	6.25*5prtM*		215.40*mpr*	330.96*mpr*	1.56*gA*	3.47*g*
Chicago	140.9	1.61 1.69	2.19 2.30	93	1.75	7.52	21.16	220.00‡	330.00‡	1.30	4.00
Cincinnati	135.5	1.63 1.71	2.19 2.30	66*Sv*	1.25*25v*	4.90*5v*	12.50*5v*	240.00*v*	370.00*v*	85*vAB*	3.25*vAB*
Cleveland	141.7	1.63 1.71	2.19 2.30	79*5sBC*	1.48*5yBC*	4.77*BC*	12.50*5BC*	155.40*mBC*	240.60*mBC*	1.35	3.60*P*
Dallas	137.8	1.63 1.71	2.26 2.37	55Q‡*B*	95*5*‡*B*	4.40‡*B*	9.75‡*B*			1.25*RD*	2.75*RD*
Denver	148.2	1.71 1.80	2.36 2.48	52*tv*	96*tv*	3.93*tv*		460.00*tv*	580.00*tv*	1.05*m*	3.50*m*
Detroit	142.1	1.61 1.71	2.19 2.30	90*n*	1.70*n*	6.80*n*	18.50*n*	182.00*m*	280.50*m*	1.10	4.05
Kansas City	138.5	1.61 1.71	2.26 2.37	61*r*	1.10*5r*	6.10‡*r*	16.56*r*	303.00*r*	581.00*r*	95*r*	3.25*r*
Los Angeles	148.6	1.70 1.79	2.19 2.30	74*bJ*	1.61*bJ*	6.42*b*	15.36*bJ*	370.00‡	530.00‡	1.176*eE*	3.486*feE*
Minneapolis	149.9	1.67 1.75	2.26 2.37	93*aB*	1.67*aB*	7.36*aB*				2.19*DFH*	6.31*DFH*
Montreal				1.13*u*	2.00*u*	7.00*u*	13.50*u*	288.00	545.00	1.17	3.11*j*
New Orleans	133.3	1.61 1.69	2.26 2.37	52*Sv*	0.98*3v*	5.43*vR*		210.50*pv*	468.00*v*	1.41*vl*	3.70*vl*
New York	138.7	1.63 1.71	2.19 2.30	1.02	1.94	7.58	19.48			1.50‡*R*	3.60*jR*
Philadelphia	138.0	1.61 1.69	2.19 2.30	68‡	1.31‡	5.13‡*r*	14.25‡*r*	300.00‡	350.00‡	1.75‡*h*	4.20‡*h*
Pittsburgh	142.9	1.63 1.71	2.19 2.30	60*2*	1.16*5*	8.14	22.71*R*	190.00	295.00	1.66*D*	3.93*D*
St. Louis O	136.9	1.61 1.69	2.26 2.37	62*v*	1.15*v*	4.92*v*	2.68*v*	200.00*v*	400.00*v*	1.50*vR*	3.65*vR*
San Francisco	148.6	1.70 1.79	2.19 2.30	86‡*d*	1.56‡*d*	7.53‡*d*	18.00‡*d*	360.00‡*j*	620.00‡*j*	1.05‡*Q*	3.30‡*Q*
Seattle	149.0	1.71 1.80	2.19 2.30	71*vk*	1.36*vk*	6.54*k*		255.00‡*vk*		1.95*vy*	4.75*vy*
Toronto				80*F*	1.50*F*	6.00*F*		157.00*F*	280.00*F*	92*F*	3.21*F*

| Mill | *WROUGHT STEEL PIPE (Full standard weight) Discount from list; see footnote | | | |

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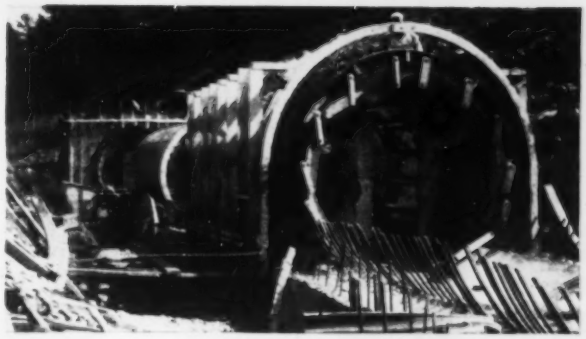

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Construction Reports

Bids Asked—Low Bidders—Contracts Awarded—

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NEW ENGLAND

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS
BRIDGES
February 17 Massachusetts
STREETS AND ROADS
February 17, 24 Massachusetts

BUILDINGS—BA

▲ Mass., Northampton—HOSPITAL—BA 2-27—Cooley Dickinson Hospital, Bd. Trustees, 30 Locust St., hospital addn., Locust St. $1,500,000. Plans deposit $100. James H. Ritchie & Assoc., 135 Clarendon St., Boston, archts. CD 8/20.

▲ Conn., Stamford—SCHOOL—BA 3/3—Town, Purch. Agt., City Hall, high school, Newfield Ave., North Stamford, $3,500,000. Plans deposit $75. Urbahn, Brayton & Burrows, 635 Madison Ave., New York, N. Y., engrs. CD 12/5/57.

BUILDINGS—LB & CA

▲ P. Francini & Co., Inc., Water St., Derby, Conn., LB $1,868,000 (9 bidders), JUNIOR HIGH SCHOOL, NORTH HAVEN, CONN. Town, School Bldg. Comm., Town Hall, North Haven, Conn. Bids Jan. 30. CD 1/13.

▲ Jerry Tuccio, Perry Lane, Ridgefield, Conn., Owner Builds, $1,550,000, 31 HOUSES, "Eleven Levels Estates" West Mountain, RIDGEFIELD, CONN.

▲ E. & F. Constr. Co., 94 Wells St., Bridgeport, Conn., CA $2,700,000, HOME for AGED, "St. Joseph's Manor", Hubbel Property, Main St., TRUMBULL, CONN. Diocese of Bridgeport, Chancery Office, 359 Washington Ave., Bridgeport, Conn. Bids Jan. 20. CD 1/27, under LB.

▲ Wadhams & May Co., 15 Lewis St., Hartford, Conn., CA $1,331,493, South Wing HOSPITAL addn., WILLIMANTIC, CONN. Windham Community Memorial Hospital, Mansfield Ave., Willimantic, Conn. Bids Dec. 22. CD 1/8, under LB.

MIDDLE ATLANTIC

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS
STREETS AND ROADS
March 12 New York

▲ N. J., Berkley Heights—BA 2-18—Twp. of Berkley Heights, 29 Park Ave., sanitary sewers, $1,200,000. Elson Kilcam Assocs., 48 Essex St., Millburn, engrs. CD 8/14.

▲† Pennsylvania—MISSILE MASTER FACILITIES—BA 1-13—U.S. Eng., 925 New Federal Bldg., Pittsburgh Zone 19, missile master facilities, Phase I & II, Pittsburgh Defense Area, Collier Twp., Allegheny Co., ENG 36-058-59-20, $2,000,000-$5,000,000. CD 1/20.

▲ N. Y., New York—PLATFORMS—BA 1-13—New York City Transit Auth., 370 Jay St., Brooklyn, Zone 1, platform extension to Brooklyn Bridge Station, Lexington Ave., Fourth Ave. Line, Cont. C 128, Manhattan End. CD 1/26, under New York.

BUILDINGS—BA

▲ Pa., Greenville—SCHOOL—BA 2-26—Pa. Pub. School Bldg. Auth., 101 S. 25th St., Harrisburg, secretary, and for Reynolds Area Jt. School Bd., Greenville, R.D. 3, $2,000,000. Plans deposit $50, Hellrigel, Hedges & Grove, 116 E. State St., Sharon, archts. CD 1/6.

▲ Pa., Phila.—RAYDIN INSTITUTE—BA 2-26—Univ. of Pennsylvania, 3025 Walnut St., for Raydin Institute, research, surgery, sect. of, $3,500,000. Schmidt, Garden & Erickson, 104 S. Michigan Ave., Chicago, Ill., archts.-engrs. CD 11/9/56.

▲ N. J., Newark—PARKING GARAGE—BA 1-9—City of Newark Parking Auth., City Hall, parking garage, Military Park, $5,000,000. Frank Grad & Son, 11 Commerce St., engrs. CD 12/15/57.

▲† D. C., Wash.—FEDERAL OFFICE—BA 1-13—General Services Admin., 18 and F Sts., Zone 2, Federal Office Bldg. No. 6, Fourth and C Sts., SW., Proj. No. 4990 (contract No. GS-R4-B-6426), Plans deposit $150. CD 11/17.

BUILDINGS—SLC

▲ Pa., King of Prussia—PLANT—Rohm & Haas Co., Inc., G St. and Erie Ave., Phila., addns. and alts. to mfg. plant, paving, railroad siding and sewage disposal sys., $2,000,000. The Ballinger Co., 1625 Race St., Phila., archt.-engr. CD 12/8.

▲ Pa., Phila.—DORMITORY—University of Pa., 3025 Walnut St., soon lets contract, women's dormitory, sanitary and storm drainage sys., $1,000,000. Eero Saarinen & Assoc., 91 W. Long Lake Rd., Bloomfield Hills, Mich., archts.; Ammann & Whitney, 111 8th Ave., New York, N. Y., engrs. CD 1/27.

HEAVY CONSTRUCTION—LB & CA

▲ PENNSYLVANIA—Pa. Hys. & Bridge Auth., 506 North Office Bldg., Harrisburg.
Allegheny Contg. Co., 101 Garsrove St., Pittsburgh, Pa., CA $1,685,963, 13,748 ft. divided by rein.-con. variable in width; I-beam bridge, Appl. 3955 (3-B), Proj. 722-1, Hopewell Twp., Aliquippa and S. Heights Boros., Beaver Co. Bids Dec. 30. CD 1/5, under LB.

▲ PENNSYLVANIA—Pa. Hys. Dpt., 506 North Office Bldg., Harrisburg.
John F. Casey Co., P. O. Box 1888, Pittsburgh 30, Pa., CA $2,977,567, 19,950 ft. c. conc. variable in width, each side divisor, 3 bridges, T. R. 88, Ambridge and Baden Boros., Harmony Twp., Beaver Co. Bids Dec. 30. CD 1/5, under LB.

▲ PENNSYLVANIA—Pa. Hy. & Bridge Auth., 506 North Office Bldg., Harrisburg.
Frank Mashuda Co. & Frank Mashuda Co., Inc. & Mashuda Constr. Co., Evans City, Pa., CA $2,835,822, 18,605 ft. divided by c. conc. road 24 ft. wide, each side 4 ft. divisor, 5 bridges, T. R. 422 (FAI) Proj. 702-1 W. Franklin Twp., Worthington Boro., Armstrong Co. Bids Dec. 19. CD 12/23, under LB.

▲ PENNSYLVANIA—Pa. Hys. Dpt., 506 North Office Bldg., Harrisburg.
Wright Contg. Co., Sinclair Lane and Frankford Ave., Odenton, Md., CA $2,225,659, 15,425 ft. divided by of c. conc. 24 ft. wide each side 60 ft. median area, 6 bridges, L. R. 749 (1) FAI Maryland line towards Greencastle, Pa., Antrim Twp., Franklin Co. Bids Dec. 30. CD 1/5, under LB.

▲ Harrison Constr. Co., 1101 Western Ave., Pittsburgh 33, Pa., LB $5,663,042, Sched. A LB $5,647,592, Sched. B Contr. BJ, grading, drainage East-West Parallel Runway Taxiway "N" and "Z", grading, drainage and paving relocated Moon Clinton Rd. connecting road and hangar service road, Greater Pittsburgh Airport, PITTSBURGH, PA. Bd. Comrs. Allegheny Co., Courthouse, Pittsburgh, Pa. Bids Feb. 3. CD 1/15.
Brayman Constr. Co., 2 Canterbury Rd., Pittsburgh 2, Pa., LB $154,553, Sched. A LB $153,363, Sched. B Contr. BL, underpass at intersection taxiway "N" and hangar service road (Pittsburgh, Pa.).

▲ MARYLAND—State Rds. Comm., 108 E. Lexington St., Baltimore.
Burkholder & Burkholder, Winchester, Va., CA $1,489,523 grading, drainage, surf. 7.351 mi. Rte. 67, Gapland to Boonsboro, W-453-2-620, Washington Co. Bids Dec. 30. CD 1/5, under LB.

▲† Lane Constr. Co., 965 E. Main, Meriden, Conn., CA $8,402,862, FY 59 M.C.P. runway/parallel-apron operation, ENG-49-080-59-24(25), ANDREWS AIR FORCE BASE, MD. U. S. Eng., First and Douglas Sts. N.W., Wash. 25, D. C. Bids Jan. 20. CD 1/22, under LB.

▲ F. D. Rich Co., 550 Summer St., Stamford, Conn., CA Est. $3,309,000, hangars, pump house, reservoir and paving, ENG-49-080-59-15(16), ANDREWS AIR FORCE BASE, MD. U. S. Eng., First and Douglas Sts. N.W., Wash. 25, D. C. Bids Jan. 15. CD 1/19, under LB.

BUILDINGS—LB & CA

▲ Glick Development Co., c/o Lana, Prokauer & Proper, archts., 345 Pearl St., Brooklyn 1, N. Y., Separate Contracts, $5,000,000, middle income cooperative housing incl. two 16 story BUILDINGS for 320 families, Shore Parkway and Bay 44 St. to be called "Contello Towers", BROOKLYN, N. Y. CD 9/5.

▲ Allis-Chalmers Mfg. Co., 864 S. 70th St., Milwaukee 1, Wis., CA Est. $3,000,000, CLINKER GRINDING BLDG., at Cement Plant, GLENS FALLS, N. Y. Glens Falls Portland Cement Co., Glens Falls, N. Y.

▲ Cauldwell-Wingate Co., 101 Park Ave., New York 17, N. Y., CA Est. $7,000,000, Cooperative HOUSING, 20 story building for 420 apartments on 2 acre site between W. 66th St. and W. 67th St. from West End Ave. to New York Central tracks, NEW YORK, N. Y. Lincoln Guild Housing Corp., c/o Stanley J. Harte, 350 Fifth Ave., New York 1, N. Y. Kelly & Gruzen, 10 Columbus Circle, New York 19, N. Y., archts.

▲ Depot Constr. Corp., 42-15 Crescent St., Long Island City 1, N. Y., LB $7,195,000 (13 bidders), general contract, MEDICAL SURGICAL BLDG., incl. service connections at Bronx State Hospital, NEW YORK, N. Y. Bureau of Contracts, Dpt. P. Wks., State Office Bldg., Albany, N. Y. Bids Jan. 28. CD 1/23.
S & M Plumbing Co. Inc., 601 W. 26th St., New York, N. Y., LB $654,000 (13 bidders), sanitary work Medical Surgical Bldg., Bronx State Hospital, New York, N. Y.).
Heimler Elec. Service, 1052 2nd Ave., New York, N. Y., LB $880,470 (16 bidders), electrical work for Medical Surgical Bldg., Bronx State Hospital, New York, N. Y.).

▲ Gramercy Arms, 481 Bryant Ave., New York 59, N. Y., Separate Contracts, $1,200,000, APARTMENT, 134-51 E. 15th St. and 146-54 Third Ave., NEW YORK, N. Y. CD 9/23.

▲ Uris Brothers, 100 Park Ave., New York 22, N. Y., Owner Builds, $45,000,000, 34 story OFFICE, Beaver St. from Broad to New Sts., NEW YORK, N. Y. Emery, Roth & Sons, 575 Madison Ave., New York 22, N. Y. archts.

▲ Roger & McKay, 19 W. 44th St., New York, N. Y., LB $1,688,000 (8 bidders), general contract, SENIOR HIGH SCHOOL, VESTAL, N. Y. Vestal Central School Dist., Vestal, N. Y. Sargent, Webster, Crenshaw & Folley, 2112 Erie Blvd. E., Syracuse, N. Y., archts.

▲ Beir & Higgins, Inc., 81 W. Allendale Rd., Allendale, N. J., Owner Builds, $2,500,000, 50 HOUSES, West Crescent Ave. and Jacinto Lakeside Club Rd., ALLENDALE, N. J. H. P. Clarkson, 408 N. Barry Ave., Mamaroneck, N. Y., archt.

▲ Bell Groft Estates, Attn. M. Saepoff, Hidden Hills Apts., 115A Hidden Hills, Westbrook, N. J., Separate Contracts, $1,410,000, 60 Unit RESIDENTIAL DEVELOPMENT, Browning Rd., etc., BELLMAWR, N. J. Dante J. D'Anastasio, 1815 Federal St., Camden, N. J., archt.

▲ American Constr. Co., 406 Main St., Metuchen, N. J., LB $6,000,000, 341 HOUSES, Grandview Ave., Elm Lane and Turnpike, EDISON, N. J. Harry Maslow, 275 Morris Ave., Elizabeth, archt.

▲ Greco Constr. Co., 87 Cannel Ave., Belleville, N. J., CA Est. $1,500,000, SHOPPING CENTER, Rte. 23, FRANKLIN, N. J. Morris Greenberg, Sun Valley Way, Morris Plains, N. J. Kenneth Higgins, State Hy. 10, Denville, archt.

▲ Totem Village, c/o J. McKee, Hammonton, N. J., Separate Contracts, $2,250,000, 250-unit RESIDENTIAL DEVELOPMENT, HAMMONTON, N. J. Dante J. D'Anastasio, 1815 Federal St., Camden, N. J., archt.

▲ Lake Apartments, Inc., c/o Lazinger & Kaplan, Lakewood, N. J., Separate Contracts, $1,000,000, 100 unit garden type APARTMENT DEVELOPMENT, LAKEWOOD, N. J. Livio J. Segalla, 200 Main St., Fort Lee, N. J., archt.

▲ Lionel Constr. Co., Englewood Dr., Magnolia, N. J., CA $2,250,000, 160-unit RESIDENTIAL DEVELOPMENT, Evesham Rd., etc., MAGNOLIA, N. J. Tivoli Gardens, Inc., c/o Arthur Steinbert, P. O. Box 863.

PROJECTS COVERED

By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $53,000; other public works $88,000; industrial buildings $110,000; other buildings $400,000. Also Foreign projects of $1,000,000 and more in size of interest to American contractors.

By Regions & Classes of Construction
(In order of Listing)

BIDS ASKED
LOW BIDDERS
CONTRACTS AWARDED

New England	Middle West
Middle Atlantic	West of Mississippi
South	Far West

PROPOSED WORK

Water Supply	Public Buildings
Sewers, Waste Disposal	Mass Housing
Bridges	Commercial Buildings
Streets & Roads	Industrial Buildings
Earthwork, Waterways	Unclassified

In These Stages

PROPOSED WORK: Before and including appointment of engineers or architects.

BIDS ASKED: BA (new announcements only). For full calendar, see also preceding issues.

SOON LETS CONTRACT: SLC

LOW BIDDERS: LB On jobs below $500,000 in value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: CA Except awards to low bidders previously reported in low bidder stage.

CD dates shown are of Construction Daily Issue in which last previous report was published.

OWNERS, ENGINEERS, ARCHITECTS, CONTRACTORS are invited to report their new jobs for listing in these reports when they meet or exceed the size minimums shown above. Address these news releases to J. A. Mahoney, REPORTS, ENGINEERING NEWS-RECORD, 330 W. 42 St., New York 36, N. Y.

Symbols and Abbreviations Include:

† Federal Government
▲ Project of $1,000,000 or over
ENR Engineering News-Record
CD Construction Daily

For additional reports see Construction Daily.

▲ Cinderella Homes, Inc., ... $1,040,000. ...

▲ Frankell Builders, Inc., ... $1,000,000. ...

▲ Kirby & McGuire, Inc., ... $2,239,239. ...

▲ The Gilmore-Olson Co., ... $1,000,000. ...

▲ R. M. Shoemaker Co., ... $3,235,000. ...

SOUTH

STATE HIGHWAY LETTINGS

BRIDGES

STREETS AND ROADS

February 17 South Carolina February 18 Louisiana
February 29 Kentucky
February 24 Mississippi, West Virginia

▲† Va., Norfolk, ...

▲ Fla., Jacksonville, ...

BUILDINGS—BA

▲ Tenn., Knoxville, ...

▲ La., Baton Rouge, ...

HEAVY CONSTRUCTION—LB & CA

▲ VIRGINIA

Va., Barnhill Constr. Co., ... and L. A. Reynolds Co., Inc., ... LB $1,458,264. ...

Va., McAmis Bros. Contractors, ... C. P. Fugate Co., ... LB $576,376. ...

Va., Faulconer Constr. Co., ... LB $988,507. ...

▲† J. Kennon Perrin Co., ... CA $2,978,564. ...

▲ WEST VIRGINIA

W. Va., Haynes Constr. Co., ... CA $2,653,034. ...

W. Va., Andersons', Inc., ... LA $631,934. ...

▲ NORTH CAROLINA

Suber & Co., Inc., ... CA $1,141,282. ...

N. C., William B. Dillard Constr. Co., ... CA $691,336. ...

▲ F. L. Showalter, Inc., ... LB $1,109,742. ...

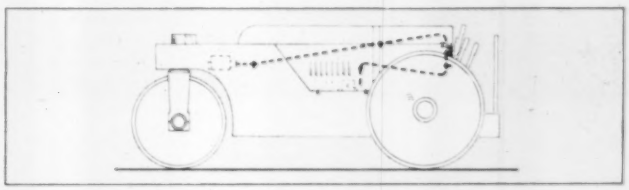
(Continued on page 74)

TRU-LAY *PUSH*-PULLS

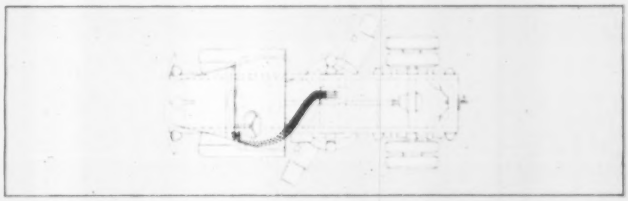
give trouble-free, lifetime service for remote control of construction and quarrying equipment

Operators of Construction or Quarrying Equipment can be certain of maintenance-free service from TRU-LAY PUSH-PULL CONTROLS because of their precision manufacture—rugged construction—lubrication for life of the inner, working member at the factory—complete sealing of the entire unit (a vitally important factor in tough, outdoor operations) against dust, dirt or moisture.

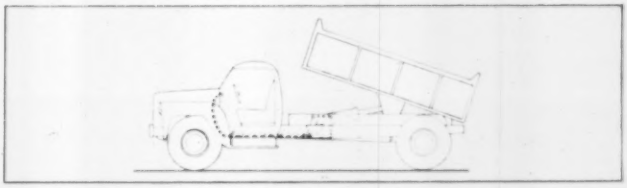
We have never heard of a TRU-LAY FLEXIBLE PUSH-PULL CONTROL *wearing out in normal service.* Examples of heavy-duty applications are shown below. Users of such equipment benefit from simplified equipment design and improved operation.



• Shown here is a tandem roller where two different PUSH-PULL cables are used to facilitate operation. One cable, 156" long, is capable of a 2" stroke to operate the hydraulic steering valve at the front of roller. The second, shorter cable operates tail shaft governor which keeps roller speed constant, upgrade or down.



• More room in the cab of this snow plow was one of the advantages of installing PUSH-PULL cables. This permitted the hydraulic valve to be located at a more convenient point in the chassis. "There are so many things you can do with these flexible cables compared to the old fixed installations," the manufacturer told us.



• Raising and lowering of the dump body on a famous line of hydraulic dump trucks is via TRU-LAY PUSH-PULL cables. With PUSH-PULLS this merely entails the pulling of a button on the dash. The installation did away with cut-up floor boards and levers in the truck cab. TRU-LAY PUSH-PULLS brought easier installation, more convenience and less maintenance.

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Canonsburg, Pa.

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"Ford's 332-cu. in. V-8 is the hottest thing on the road for its size!

"Our fourteen Ford trucks all have exceptional durability records. Several '55 T-800 dumps, grossing 48,000 lb., have over 200,000 miles on 'em. They went an average of 150,000 miles before we touched the engine. And for power and performance, too, the Ford 332 engine is the hottest thing on the road for its size.

"Ford's better visibility, handling ease and power steering are big factors in our excellent highway safety record. We've had many million-mile accident-free years with our Ford fleet.

"In addition to our sand and gravel business, we have ten Ford F- and C-800 tractors that make long, over-the-road trips hauling limestone one way and steel on the way back.

"On these trips parts availability is very important. Ford Dealers are about everywhere, and they all stock parts. We never get delayed waiting for Ford parts."

GO FORD-WARD for savings with '59 Ford Trucks!

Whatever your job . . . wherever you do it—you'll find Ford Heavies and Extra Heavies are engineered and built to do it better! And the '59 improvements in these models will bring still more benefits to your operation.

Greater operating economy with new, faster rear axle ratios and wider choice of transmissions.

Higher payloads and longer axle life with new, higher-capacity front and rear axle options for most models.

Factory installed tractor package custom-fitted to Ford trucks for safer, more dependable braking.

More efficient parking brake of the internal expanding type has approximately 50% greater stopping and holding ability, requires less than half the operating effort needed for the previously used type.

Yes, the new '59 Ford trucks are here to take you *Ford*-ward for savings, *Ford*-ward for modern style and stamina.

See your Ford Dealer today!

NEW '59 FORD F-600 DUMP carries a maximum GVW rating of 19,500 lb. Now available with optional 6000-lb. front axle for greater capacity, longer life.

FORD TRUCKS COST LESS

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(Continued from page 71)

POINT, N. C. City of High Point, Bids Hall, High Point, N. C. Bids Jan. 26. CD 1-20.

Corbin Constr. Co., P. O. Box 471, Dunn, N. C. LB $150,564, elev. water pumping station, High Point, N. C.

▲ NORTH CAROLINA—State Hy. Dept., Raleigh.
A. R. Thompson Contractor Inc., Rutherfordton, N. C. CA $2,228,457, CABs and concrete paving, 10.88 mi. Proj. 8.1612, Burke Co. Awarded Feb. 3. CD 1-23, under LB.

▲ † Barksdale & LaBlanc, Box 1567, Baton Rouge, La. CA $1,099,300, Wherry Housing improv. to 500 units, Robins Air Force Base. IFB-09-603-59-63, MACON, GA.: U. S. Air Force, Robins Air Force Base, Macon, Ga. Bids Dec. 1. CD 12-24.

▲ FLORIDA—State Rd. Dept., Tallahassee. Bids opened 1-29.

H. E. Wolfe Constr. Co., Box 1367, St. August, Fla., LB $447,973 (4 bidders) 6 in. limerock stabilized base with Type B conc. surf. course, etc., 11.91 mi., R 13 12 mi. east near Tolo Junction (SR 5-214 Fed. Aid Proj. No. S-447 (1), Job No. 78670-3260, St. Johns Co.; LB $966,388, 7 bidders) four-lane divided Bit. on limerock base with Type 1 b. conc. surf. course and binder course, 3 concrete box culverts, 6.228 mi., SR 20 (US 19 and 27) between 0.5 mi. south of Taylor Co. Line and Aucilla River, Fed. Aid Proj. No. F 016-2 (17), Job Nos. 48020-3106 and 25030-3105, Taylor and Madison Counties; LB $1,204,321 (6 bidders) four-lane 8½ in. and 10½ in. limerock base with Type 1 b. conc. surf. course and binder course, 1 double concrete slab deck grade separation bridge, 4.823 mi., SR 8, between a point approx. 1,400 ft. west of Lane Ave. and point approx. 1.8 mi. west, FAI Proj. No. I-10-5 (13) 349, Job No. 72270-3406, Duval Co.;

W. L. Cobb Constr. Co., Box 977, Tampa 1, Fla., LB $1,306,718 (6 bidders) 4-lane 8½ in. limerock base with Type B conc. surf. course and binder course, SR 5 (US 1) between the south city limit of Rockledge and north city limits of Cocoa, Fed. Aid Proj. No. F-004-5 (6), Job No. 70020-3275, Brevard Co.; LB $108,046 (2 bidders) Type 11 b. conc. surf., 1.423 mi. section on Long Key St., St. Petersburg, 1.887 mi. State Proj. Job No. 1501-8502, SR 595 in St. Petersburg, from 32 St. to 59 St. and Job No. 15100-8501, SR 699 and 690, Pinellas Co.;

B. B. McCormick & Sons, Inc., Box 248, Jacksonville Beach, Fla., LB $1,127,117 (6 bidders) 4-lane 8½ in. and 10½ in. limerock base Type 1 b. conc. surf. course and binder course 3.364 mi., SR 8 between St. Mary's River and point east of SR 228, FAI Proj. No. I-10-5(14)328, Job No. 27090-3405, Baker Co.;

Troup Bros., Inc., Box 168, Miami 33, Fla., LB $2,183,173 (8 bidders) 4-lane dual roadway facility with interchanges 1.505 mi. at S. W. 8 St. (Tamiami Trail) and West Flagler St., SR 826 (Palmetto Rd.) from S. W. 14 St. north to point new N. W. 8 St., State Proj. Job No. 87260-3503, Dade Co.;

Hubbard Constr. Co., Box 7217, Orlando, Fla., LB $778,716 (4 bidders) 4-lane divided 8½ in. limerock base, SR 438 in Winter Park and Seminole Co. Line, Fed. Aid Proj. Nos. IU-010-1 (9) and UG-101-1 (8), Job Nos. 750-30-3205 and 75030-3502, SR 15 and 600, Orange Co. CD 1-16.

▲ Boyle Constr. Co., E. Liberty St., Sumter, S. C., LB $657,385, Trunk Sewer Project MES 15-4; LB $798,197, Trunk Sewer Project MES 15-5, JACKSONVILLE, FLA., City, City Hall, Jacksonville, Fla. Bids Jan. 27. CD 1-7.

Halpin, Inc., Okeechobee Rd., Fort Pierce, Fla., LB, $1,094,999, Trunk Sewer Project MES15-4, Jacksonville, Fla.;

Hercules, Inc., 3714 Blanding Blvd., Jacksonville, Fla., LB $1,609,973, Trunk Sewer Project MES 15-6, Jacksonville, Fla.;

Inter-County Constr. Corp., 1720 Baltimore Ave., Hyattsville, Md., LB $1,928,110, Trunk Sewer Project MES 15-7, Jacksonville, Fla.;

▲ † Arnold M. Diamond Co., 115 Middle Neck Rd., Great Neck, N. Y., LB $1,086,790, second carrier berthing pier, U. S. Naval Auxiliary Air Station, NBy-18511, MAYPORT, FLA., Dist. P. Wks. Office, 6th Naval Dist., Bldg. No. 33, U. S. Naval Base, Charleston, S. C. Bid Jan. 6. CD 12-31.

▲ MISSISSIPPI—State Hy. Dept., State Office Bldg., Jackson.

Miss. Burdine Constr. Co., Box 283, Greenville, Miss., CA $1,518,286, est. $1,920,000, 4.258 mi. grade, drainage, culverts, bridges, base, double bit. surf. treatment and conc. on US Nos. 82 and 49 E between Greenwood and Ft. Pemberton, Proj. U-011-2(8) & F-011-2(9), Leflore Co.;

Miss. M. & W. Constr. Co., Box 383, Tupelo, Miss., CA $139,867, est. $160,000, 1.924 mi. grade, drainage, culverts, base and double bit. surf. treatment, US Hy. 78 between Fulton and Alabama line, Proj. F-020-2(8), Itawamba Co.;

Miss. Boyd Constr. Co., Grenada, Miss., CA $91,975, est. $110,000, 5.644 mi. base, double bit. surf. treatment, Miss. Hy. 340 between Coffeeville and Oakland, Proj. 340-9-A, Yalobusha Co.;

Miss. Cook Constr. Co., Box 836, Jackson, Miss., CA $825,029, est. $850,000, 1.087 mi. grade, drainage, surf. base double bit. surf. treatment, concrete pavement, grade separation structures Interstate Hy. No. 55, Proj. I 041-2(14), Unit 1-55-2(14), 98 near Kosciusko;

Miss. A. A. Bush, Hy. 15 N., Laurel, Miss., CA $109,720, est. $135,000, 7.18 mi. base and double bit. surf. treatment, Miss. Hy. 541 between Taylorsville and Bay Springs, Proj. S-6345-21A, Smith Co. Bids Jan. 27, grand total $2,684,877. CD 1-15.

▲† Warren Bros. Roads Co., Greenville, Miss., CA $1,110,204, bank revetment work, Mississippi River at Richardson Landing near Memphis, TENNESSEE-U. S. Eng., P. O. Box 47, Memphis, Tenn. CD 4/22/44, under Illinois and Louisiana.

BUILDINGS—LB & CA

▲ Baker & Coombs, Inc., 651 E. Parkway Ave., Morgantown, W. Va., LB $1,627,700, PHYSICAL EDUCATION BLDG. for Marshall College, HUNTINGTON, W. VA.; The State Bd. Educ., Capitol Bldg., Charleston 5, W. VA. Bids Jan. 21. CD R-1, under LB.

▲ Rea Constr. Co., Pineville Rd., Charlotte, N. C., LB $1,826,400, PHYSICAL EDUCATION BLDG., RALEIGH, N. C.; North Carolina State College, Raleigh, N. C.; T. C. Cooke, Supv. Bldg., Durham, N. C., engr. Bids Jan. 22. CD 12-18.

▲ T & T Constr. Co., 1395 NW 21 St., Miami, Fla., LB Base Bid $4,899,000, Net Bid $4,753,377, 242 bed HOSPITAL, vicinity of N. Kendall Dr. and SW 88 Ave., MIAMI, FLA.; Mercy Baptist Hospital, Inc., 1324 W. Flagler St., Miami, Fla. Bids Jan. 23. CD 1-13.

▲ G. W. Hallmark & Sons, Inc., 1528 N. 21 Ave., Birmingham, Ala., CA $1,517,710, Gilbert Co.-HOSPITAL addn., alterations, SHEFFIELD, ALA.; Gilbert Co., Bd. Revenue, Courthouse, Tuscumbia, Ala. Bids Jan. 15. CD 1-29, under LB.

▲ Perrillat-Rickey Constr. Co., 1538 S. Rendon, New Orleans, La., CA $1,864,521, 124,000 sq. ft. steel frame, precast concrete, brick, tile, concrete block, St. Joseph SEMINARY, COVINGTON, LA. Archdiocese of New Orleans and the Benedictine Monks, 7844 Walmsley Ave., New Orleans, La. Bids Dec. 19. CD 12-30, under LB.

▲ Keller Constr. Co., 7900 Palm, New Orleans, La., LB $1,375,000, Flint Goodridge HOSPITAL addn., NEW ORLEANS, LA.; Dillard University, 2425 Louisiana Ave., New Orleans, La.; Goldstein, Parham & Labouisse, American Bank Bldg., New Orleans, La., archts. Bids Feb. 3. CD 1-28.

▲ Hargett Constr. Co., 113 Walton Ave., Lexington, Ky., CA $2,133,700, superstructure for HEALTH SERVICES BUILDING, FRANKFORT, KY.; Commonwealth of Ky., Div. Purchases, Frankfort, Ky.; Meriwether, Morse & Assoc., 248 E. Short St., Lexington, Ky., archts. Bids Jan. 20, awarded Jan. 29. CD 1-23, under LB.

▲ H. K. Ferguson Co., 1785 E. 11, Cleveland, O., CA $8,000,000-$9,000,000, design and construct TIRE PLANT, MAYFIELD, KY.; General Tire & Rubber Co., 1708 Englewood St., Akron, O. CD 1-19.

▲ Southern Builders, Inc., 3355 Poplar Ave., Memphis, Tenn., CA $1,000,000, 5 story, 40,000 sq. ft. OFFICE, MEMPHIS, TENN.; Harry Bloomfield & Alex Krasner, c/o Wiseman & Bland, archts., Shrine Bldg., Memphis, Tenn.

MIDDLE WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

February 18 Illinois

STREETS AND ROADS

February 18 Illinois — February 24 Indiana

BUILDINGS—BA

▲ O., Newark—SCHOOL—BA 2-25—Newark School Dist., high school, $3,000,000. Perkins & Will, 309 W. Jackson Blvd., Chicago 6, Ill., archts. CD 1-14.

▲ Wis., Wauwatosa—SCHOOL—BA 3-3—Bd. Educ., 1732 Wauwatosa Ave., Whitman Junior High School, $2,500,000. Plans deposit $50. Extended date. Eschweiler & Eschweiler, 720 E. Mason St., Milwaukee Zone 2, archts. CD 113.

▲ Ind., Wabash—HOSPITAL—BA 3-6—Bd. Trustees, c/o Bernice Ford, admin., Wabash Co. Hospital, 3 story, 42,000 sq. ft., masonry, reinforced, structural steel hospital addn., East St., Wabash St., $1,200,000. Fink, Roberts & Petrie, 565 Westfield Blvd., Indianapolis, structural engrs. Rotz Eng. Co., 1919 N. Meridian St., Indianapolis, mech. engr. Daggett, Naegele & Daggett, 567 Westfield Blvd., Indianapolis, archts. CD 1-28.

HEAVY CONSTRUCTION—LB & CA

▲ Emil Marcelletti & Sons, 25 W. Monroe, Bedford, O., LB $1,238,784, est. $1,500,000, 10 bidders, Contr. 2, Lake Shore Blvd., Trunk Sewer, EUCLID, O.; City, City Hall, 585 E. 222 St., Cleveland 23, O. Bids Jan. 26. CD 1-14.

▲ Hunkin-Conkey Constr. Co., 1746 E. 12 St., Cleveland 14, O., LB $3,196,999, est. $3,552,000, Contr. 1, sewerage sys., WARREN, O.; City, City Hall, Warren, O. Bids Jan. 16. "Correction—low bidder". CD 1-21, under LB.

▲ Overland Constr. Co., 205 W. Wacker Dr., Chicago 6, Ill., CA $2,685,134, superstructure, bascule bridge, Dearborn St., CHICAGO, ILL.; Dept. Purchases, City of Chicago, City Hall, Chicago, Ill. CD 1-8, under LB.

BUILDINGS—LB & CA

▲ Rust Engineering Co., 930 Fort Duquesne Blvd., Pittsburgh 22, Pa., CA Est. $7,000,000, Cement PLANT, Norton Twp., BARBERTON, O.; Columbia-Southern Chemical Corp., 1 Gateway Center, Pittsburgh 22, Pa. CD 10-17.

▲ Roy C. Clark Inc., 804 E. Chicago Ave., East Chicago, Ind., LB $1,699,000, 2 story, psmit, University Extension CENTER, SOUTH BEND, IND.; University of Indiana, Admin. Bldg., Bloomington, Ind. Bids Jan. 15. CD 12-9.

▲ Taylor Constr. Co., 420 Lexington Ave., New York, N. Y., CA Est. $8,500,000, two 10 story, air-conditioned University APARTMENTS, E. 55 St., S. Ken-

wood and S. Harper Aves., CHICAGO, ILL. University Gardens, Inc., (sub. Webb & Knapp, Inc.), 104 S. Michigan Ave., Chicago, Ill. I. M. Pei, 383 Madison Ave., New York, N. Y., archt. Loewenberg & Loewenberg, 111 W. Monroe St., Chicago, Ill., assoc. archts. CD 12/8.

▲ Raymond Concrete Pile Co., 140 Cedar St., New York, N. Y., LB $1,283,900 (2 bidders), FOUNDATION WORK for Post Office, Fort St., W. West Jefferson Ave., 8th and 10th Sts., DETROIT, MICH. Post Office Dpt., Bureau Facilities, Rm. 4000, Wash. 25, D. C. Bids Feb. 3. CD 1/7.

WEST OF MISSISSIPPI

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

February 19 Kansas

STREETS AND ROADS

February 18 Colorado February 19 Kansas

▲ Tex., Big Spring—BA 2/26—Colorado River Municipal Water Dist., c/o E. V. Spence, mgr., 33 mi. 30 in. concrete cylinder pipe line from Martin Co. Well Field to Odessa, near here. $2,250,000. Plans deposit $50. Freese & Nichols, 407 Danciger Bldg., Fort Worth, engrs. CD 1/29.

▲† Neb., Fort Crook—OPERATIONAL BASE SQUADRON ONE—BA 3/11—U. S. Eng., 1709 Jackson St., Omaha, Zone 2, WS-107A Operational Base Squadron One, Sites A, B and C, Offutt Air Force Base, ENG-25-066-59-49. $13,000,000-$18,000,000. CD 4/24; under Neb., Omaha.

▲† Colo., Denver—AIR BASE FACILITIES—BA 3/19—U. S. Eng., 1709 Jackson, Omaha 2, Neb. Technical facilities

Complex 1A, 3 control centers of rein.-con., 51 ft. radius spherical-section with inside height 35 ft 9 in. at center.

Complex 1B, three powerhouses, rein.-con., 62 ft. radius spherical section with inside height of 46 ft. at center.

Complex 1C, three 73 x 27 ft. rein.-con., portal silos, WS-107A-2, ENG-25-066-59-73. Total est. $30,000,000-$40,000,000. CD 1/22.

BUILDINGS—BA

▲ Iowa, Ottumwa—HOSPITAL—BA 2/17—Sisters of Holy Humility of Mary, St. Joseph's Hospital, 4 story, 46-bed wing hospital, $1,500,000. Frank L. Pulley, 720 Securities Bldg., Des Moines, engr. Brooks-Borg, 815 Hubbell Bldg., Des Moines, archts. CD 9/18.

▲ Mo., St. Joseph—HOSPITAL—BA 3/4—St. Joseph's Hospital, 4 story, 204-bed irregular shape hospital, incl. chapel, $3,000,000. Everett Johns, 5123½ Francis St., archt. W. L. Cassell, 912 Baltimore, Kansas City, Mo., mechanical engr. Pfuhl & Stevenson, 1009 Baltimore, Kansas City, Mo., structural engrs. CD 7/10; under LB.

HEAVY CONSTRUCTION—LB & CA

▲† Weymouth Constr. Co., 2174 E. Pershing Ave., Memphis, Tenn., CA $1,284,881, bank revetment work, Mississippi River near Helena, ARKANSAS. U. S. Eng., P.O. Box 97, Memphis, Tenn. CD 4/22/44; under Illinois and Louisiana.

▲† Ben M. Hogan & Co., 110 Fairview, Little Rock, Ark., LB $1,313,077, est. $1,527,195, operational plot apron and taxiway, Little Rock Air Force Base, ENG-03-050-59-10, LITTLE ROCK, ARK. U. S. Eng., P.O. Box 867, Little Rock, Ark. Bids Feb. 3. CD 1/5.

▲ TEXAS, State Hy. Comm., Austin.

Tex., R. W. McKinney, Nacogdoches, Tex., Geo. Kies, 1303 Robt. E. Lee Rd., Austin, Tex., and Harry Newton, Graham, Tex., CA $2,099,595, base, hot mix b. conc. and S. grade separations 5.99 mi., Hy. IH 35, Proj. 1-3-64, 261, Kle., McLennan and Hill Counties.

Tex., Texas Bitulithic Co., Box 10365, Dallas, Tex., CA $1,160,913, elevated expressway 0.475 mi., Hy. IH 20, Proj. 1-1m-20-4, 131-441, Tarrant Co.

Tex., T. L. James & Co., Inc., Box 541, Ruston, La., CA $779,604, hydraulic fill 1.341 mi., Hy. St. 35, Proj. 1069-1-6, Calhoun Co.

Tex., Flenniken Constr. Co., Inc., 5602 Maple St., Dallas, Tex., CA $644,835, b. conc. flex. base, shoulder with 2 course asphalt treatment 12.773 mi., Hy. U. S. 271, Proj. F-674-1(3), Lamar and Red River Counties. Bids Jan. 17. Grand total $4,683,917. CD 1/26; under LB.

▲ City and Denver Co., City & County Bldg., Denver, Colo., Force Account, $1,600,000, street work, DEN-VER, COLO., C. P. Harness, City & County, Denver, Colo., city engr. CD 5/23/55.

▲† Northwestern Engineering Co., 6001 Colorado Blvd., Denver 16, Colo., LB $2,958,575 (5 bidders), runway, primary instrument, Walker Air Force Base, Inv. No. ENG-29-005-59-59, ROSWELL, N. M. U. S. Eng., P. O. Box 1538, Albuquerque, N. M. Bids Jan. 13. CD 12/10.

BUILDINGS—LB & CA

▲† The Martin Co., Middle River, Baltimore, Md., LB Est. Approx. $6,000,000 (9 bidders), design, develop, construct, install and test operate a fully assembled MODULAR NUCLEAR POWER PLANT, Sundance Air Force Station, SUNDANCE, WYO., U. S. Atomic Energy Comm., Germantown, Md., and Dist. Air Force, Pentagon, Arlington, Va. CD 12/16.

▲ Mead & Mount Constr. Co., Denver Club Bldg., Denver, Colo., CA $2,229,000, RESEARCH LABORATORY, LITTLETON, COLO., Martin Co., 1250 South Highway, Littleton, Colo. Bids Jan. 16. CD 1/22; under LB.

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▲ Frederics Brothers Enterprises, 2522 S. Stuart, Denver, Colo. Owner Builds, $3,000,000, 1 story, 250,600 sq. ft. Sheridan Southwest SHOPPING CENTER, between South Sheridan Blvd. and Depew St., and West Warren and West Evans Ave., SHERIDAN, COLO. T. H. Buell & Co., 730 14 St., Denver, Colo., archts.

MIDDLE WEST

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS
STREETS AND ROADS
March 4, 5 California

▲ Calif., Santa Ana—BA 2-25—Orange County Sanitation Dist. No. 3, 1104 W. 8th St., Miller-Holder Trunk Sewer, Huntington Beach, Contr. No. 3-2 $1,700,000.– CD 8-15.

▲† California—PA 3/5—U. S. Eng., 751 S. Figueroa St., Los Angeles, impry. Los Angeles River, Soto to Randolph Sts., Los Angeles, ENG-04-353-59-23, $4,000,000. CD 10-24-57.

HEAVY CONSTRUCTION—LB & CA

▲† M. M. Sundt Constr. Co., P. O. Box 2592, Tucson, Ariz., CA $1,594,585, alert facilities, Davis-Monthan Air Force Base, ENG-04-353-5939, TUCSON, ARIZ. U. S. Eng., 751 South Figueroa St., Los Angeles, Calif. Bids Jan. 13. CD 1-15, under LB.

▲ Hoffman Constr. Co., 715 S. W. Columbia St., Portland, Ore., LB $5,297,000 (3 bidders). Exposition Recreation Center, PORTLAND, ORE. Exposition Recreation Comm., Park Bldg., Portland, Ore. Bids Jan. 29. CD 12-17.

▲† MacDonald & Kruse, 7540 Wheatland Ave., Sun Valley, Calif., CA $1,703,900, est. $2,000,000. Santa Anita Wash Channel Imprvt. Debris Basin to A.T.&S.F. Ry., ENG-04-353-59-19, CALIFORNIA. U. S. Eng., 751 S. Figueroa St., Los Angeles, Calif. Bids Jan. 27, awarded Jan. 30. CD 1-29, under LB.

▲† Price McNemar Constr. Co., Box 3157, San Mateo, Calif., CA $1,472,000, environmental simulation facility, Naval Air Missile Test Center, Spec. 19518-58, POINT MUGU, CALIF. Eleventh Naval Dist., 1220 Pacific Hy., San Diego, Calif. Bids Jan. 20, awarded Jan. 28. CD 1-26, under LB.

▲† Frum Colnon Contg. Co., 48 Park Rd., Burlingame, Calif., CA $2,088,925, trussed steel arch flight test hangar with precast concrete tiltup walls, access apron and taxiway and associated utilities, McClellan Air Force Base, Spec. 2536, ENG-04-167-59-27, SACRAMENTO, CALIF. U. S. Eng., 1209 8th St., Sacramento, Calif. Bids Jan. 23. CD 1-28, under LB.

BUILDINGS—LB & CA

▲† C. Berg, Inc., 2730 Westlake Ave. N., Seattle, Wash., LB $2,861,000, est. $2,825,183 (11 bidders). 1 and 2 story, 56,200 sq. ft. steel frame HOSPITAL, KATZEHIN, ALASKA. Bureau Indian Affairs, Geology Bldg., U. of New Mexico, Albuquerque, N. M. Bids Jan. 27. CD 1-12.

▲ Jon Kreedman & Co., 9350 Wilshire Blvd., Beverly Hills, Calif., CA $12,500,000, HOTEL Wilshire Blvd. and Camden St., BEVERLY HILLS, CALIF. Beverly-Imperial Hotel, c/o Charles Luckman & Assoc., archts., 9200 Sunset Blvd., Los Angeles, Calif.

▲† Robert E. McKee, Inc., 4701 San Fernando, West Los Angeles, Calif., CA $6,752,900. Item 1, BUILDINGS 162, 163 and 164 alterations, addns. at Veterans Admin. Center, Wadsworth Hospital, LOS ANGELES, CALIF. Veterans Admin., Monticano Bldg., Wash., D. C. Bids Jan. 20. CD 1-23, under LB.

▲ Tom E. Norcross, 4054 Atlantic Ave., Long Beach, Calif., LB $1,649,000 (9 bidders). 1 and part 2 story, concrete PHYSICAL SCIENCE and ENGINEERING CENTER BLDG., WALNUT, CALIF. Mount San Antonio College Dist., 1100 San Jose Hills Rd., Walnut, Calif. Bids Jan. 30. CD 1-22.

CANADA

HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS
BRIDGES
February 18 British Columbia

BUILDINGS—BA

▲ Que., Montreal—COLLEGE—BA 2-18—La Corporation du College St.-Paul, 2481 Gouin Blvd., 3 story, reinf. con., brick stone Classical College, Bois de Boulogne Ave., $1,500,000. Larose & Larose, 8 Roseland Crescent, Mount Royal, archts. Brouillet & Carmel, 3600 Barclay Ave., engrs.

HEAVY CONSTRUCTION—LB & CA

▲ Schwenger Constr. Ltd., 1255 Beach Rd., Hamilton, Ont., CA $1,917,325. Contr. 2 and 4, 14,200 ft. 7½-8½ ft. tunnel interceptor sewers, Woodward Ave. sewage treatment plant, HAMILTON, ONT. Awarded Jan. 28. CD 1-22, under LB.

BUILDINGS—LB & CA

▲ Cassault Engineering Ltd., 316 Northern Hardware Bldg., Edmonton, Alta., CA Est. $1,500,000. caustic soda and chlorine PLANT, DUVERNAY, ALTA. Western Chemicals Ltd., 31 Michael Bldg., Calgary, Alta.

▲ Construction Control Services, 39 Dufflaw Rd., Toronto, Ont. Owner Builds, $1,100,000, 100 BUNGALOWS, Dufferin-Lawrence area, TORONTO, ONT.

LATIN AMERICA

HEAVY CONSTRUCTION—LB & CA

▲† PANAMA—Bureau P. Rds., Inter-America Hy. Office Wash., D. C., U. S. A., Somer, Valarino & Arias, and M. Calderon, Panama, CA $4,086,876 (joint venture). Proj. 18-A Inter-American Highway from Santiago to Pajia, Province of Veraguas. Bids Dec. 29. CD 1-6.

HEAVY CONSTRUCTION—LB & CA

▲† Merritt-Chapman & Scott Corp., 261 Madison Ave., New York, N. Y., U. S. A., LB $7,363,675 (19 bidders), widening 2 mi. from 300 to 500 ft. Paraiso-Cucaracha Reaches (Gaillard Cut), Panama Canal, CANAL ZONE. Panama Canal Co., Balboa Heights, Canal Zone. Bids Feb. 2. CD 1-29.

AMERICANS ABROAD

HEAVY CONSTRUCTION—LB & CA

▲ Utah Constr. Co., 100 Bush St., San Francisco, Calif., U.S.A. (Compagnie Industrielle de Travaux, Citra, 16 Boulevard Malesherbes, Paris 8, France, and Taylor Woodrow Constr. Ltd., 10 Park St., London W. 1, England) CA $26,000,000, about 200 mi. single track railway incl. clearing and earth moving approx. 10,000,000 cu. yd., 2 major bridges and 30 smaller crossings, running from Mayoko to Brazzaville, FRENCH EQUATORIAL AFRICA. Compagnie Miniere de L'Ogooue (Comilog) Frev., French Equatorial Africa.

PROPOSED PROJECTS

WATER SUPPLY

▲ Colo., Boulder—City, City Hall, water sys. expansion, $1,500,000-$3,000,000. Hoper Engineering, Equitable Bldg., Denver, consult. engr. for preliminary studies. CD 4-11-57.

▲ Mich., Traverse City—City, City Hall, Proj. No. Mich. 20-P-3028, intake line and crib, Grand Traverse Bay, low service pumping station and main treatment plant and high service main, $2,980,000. To go ahead Fall 1959.

▲ N. Y., Niagara (RFD Niagara Falls)—Town, Town Hall, WW, pipe lines and storage, $1,450,000. Pride Assocs., Military Rd., Town of Niagara, N. Y., engrs.

▲ N. Y., Wheatfield—Town, Town Hall, water dist. and storage sys., $2,939,275. Kheibel & Kheibel, 1868 Niagara Falls Blvd., Tonawanda, engrs.

▲ R. I., Woonsocket—City, Dpt. Finance, Div. Purchase, City Hall, water treatment plant, $1,000,000. Metcalf & Eddy, Statler Bldg., Boston, Mass., consult. engrs. Constr. 1959. CD 2-8-45.

▲ Tex., Big Spring—Colorado River Municipal Water Dist., c/o E. V. Spence, engr., 33 mi. 16 in. concrete cylinder pipe line, Martin Co. Well Field to Odessa, near here, $2,250,000. Freese & Nichols, 307 Davidger Bldg., Fort Worth, consult. engrs. CD 11-27-57.

SEWERS, WASTE DISPOSAL

▲ Calif., Palos Verdes—City of Palos Verdes Estates, 2512 W. Tioga, sanitary sewer in Palos Verdes Estates Assessment Dist. No. 2, $1,000,000. South Bay Engineering Co., 43 Malaga Cove Plaza, consult. engr.

▲ Ill., Swansea—Village, Village Hall, sewage treatment plant and sewerage sys., $1,000,000. Clark, Daily & Dietz, 209 N. Race St., Urbana, consult. engrs. CD 1-10.

▲ Ill., Urbana—City, City Hall, storm sewers, (a) Anderson St., (b) N. Lincoln Ave., (c) NW. Urbana area, (d) University Downs, $1,856,000. Clark, Daily & Dietz, 209 N. Race, consult. engrs.

▲ Ind., Indianapolis—Bd. Sanitary Comrs., 421 N. Pennsylvania St., sewage treatment plant addn., 2700 S. Belmont St., $2,000,000. Warman Ave. sewer, $414,600; extend 33 in. combination sewer from Emerson to Arlington, $384,000. Work to start in 1959.

▲ O., Toledo—City, City Hall, North Toledo storm sewer to serve area bounded by Ottawa River, Stickney Ave., E. Delaware Ave., and Lagrange Sts., $1,500,000. Constr. 1959.

▲ Vt., St. Johnsbury—Town, Bd. Trustees, sewerage & sewage sys., $1,446,000. Whitman & Howard, Inc., 89 Broad St., Boston, Mass., consult. engrs.

BRIDGES

▲ NEW YORK—Dpt. P. Wks., State Office Bldg., Albany. Queens Co., fixed span bridge over Flushing River, Whitestone Hy., Flushing, FAI, $10,000,000. Praeger-Kavanagh, 126 E. 48th St., New York 16, N. Y., engrs. CD 1-20.

▲ N. Y., Buffalo—City, City Hall, single span vertical lift bridge over Buffalo River, Michigan Ave., $5,000,000.

▲ WASHINGTON—State Hy. Comm., Olympia. Clark Co.—interchange structure and ramps on Primary St. Hy. 1 at intersection with Secondary St. Hy. 1-S at Hazel Dell, $445,000. Bids 1959.

bridges over Washougal River, 0.07 mi., Primary St. Hy. 8, Camas vicinity, $390,000. Bids 1959-60.

Cowlitz Co.—Pioneer bridge together with grading, surfacing, paving 1.1 mi. between Primary St. Hys. 1 and 12 in Longview, $1,131,000. Bids 1959-60.

Klickitat Co.—grading, surfacing, paving 1.95 mi. approaches to Biggs Rapids bridge over Columbia River, $434,000. Bids 1959.

bridge over Swale Creek together with grading, surfacing, paving approaches 0.53 mi. Primary St. Hy. 9, $190,000. Bids 1959-60.

▲ Wash., Bellingham—Whatcom Co., Co. Courthouse, bridge from Lummi Point to Gooseberry Point, $1,750,000. H. M. Hadley, Securities Bldg., Seattle, Zone 1, consult. engr. CD 11-19-57.

STREETS AND ROADS

▲ NEW YORK—State Dpt. P. Wks., State Office Bldg., Albany, Zone 1.

Oneida Co.—reconstr. 4½ mi. section Rte. 46 from 3 mi. south of Rte. 274 intersection at Frenchville northward to south of Northwestern, passing around Westernville and thru Frenchville, FAI Proj., $1,000,000.

▲ WASHINGTON—State Hy. Comm., Olympia.

Clark Co.—grading, surfacing, paving and 26 St. bridge 0.59 mi. Secondary St. Hy. 1-T in Vancouver, $700,000. Bids 1959-60.

embankment 1 mi. along Primary St. Hy. 8, Camas Slough to Washougal River, $310,000. Bids 1959-60.

grading, surfacing, paving 1.99 mi., Primary St. Hy. 1, Salmon Creek School to Kozy Kamp, $530,000. Bids 1959-60.

Cowlitz Co.—grading, surfacing, paving ramps and frontage road for Secondary St. Hy. 1-S (Woodland) interchange 0.91 mi. Primary St. Hy. 1, $1,045,000. Bids 1959-60.

grading, surfacing, paving and bridge on 1.59 mi. in Longview from 15th and California Way to railroad underpass on link between Primary St. Hy. 12 and 1, $730,000. Bids 1959-60.

grading, surfacing, paving 2.29 mi. Secondary St. Hy. 1-S, Ariel to Hatchery Creek, $500,000. Bids 1959-60.

Klickitat Co.—grading and bridges 14.28 mi., Primary St. Hy. 8, Dowal to Chapman Creek, $1,695,000. Bids 1959-60.

Pacific Co.—surf. 5.89 mi. Secondary St. Hy. 13-A Airport Road to North Cove, $641,000. Bids 1959-60.

surf. paving 10.16 mi. Secondary St. Hy. 12-B, Megler to Naselle, $1,229,000. Bids 1959-60.

▲ WASHINGTON—State Hy. Comm., Olympia.

Grays Harbor Co.—grading, surfacing, paving and bridge 8.6 mi., Primary St. Hy. 9, McCleary to Elma, $2,631,500. Bids 1959-60.

Thurston Co.—grading, surf., paving 3.75 mi., Primary St. Hy. 5, Sargent Lake Rd. to McCleary, $887,500. Bids 1959-60. CD 12-29-54.

EARTHWORK, WATERWAYS

▲† Alabama—Tennessee Valley Authority, New Sprankles Bldg., Knoxville, Tenn., enlarging lock and hydro electric facilities, Wheeler Dam, $38,000,000 (no appropriation).

▲† Delaware and Maryland—U. S. Eng., 2635 Abbotts Pond Rd., Phila., Pa., vertical lift single track railroad bridge across Chesapeake & Delaware Canal, Delaware, Howard, Needles, Tammen & Bergendoff, 99 Church St., New York, N. Y., consult. engrs. CD 9-6-57.

FOREIGN

▲ Iran—Iran Development & Resources Corp., 50 Broadway, New York 4, N. Y., arch dam and underground power house, in Dez River, Total project, $53,000,000. Contractors must prequalify before February 15. CD 10-10-57.

PUBLIC BUILDINGS

▲ Calif., Anaheim—SCHOOLS—Anaheim City School Dist., $3,000,000, bond election Mar. 24, schools. CD 2-8-58.

▲ Calif., Visalia—JAIL, Bd. Supervs., Tulare Co. Court house, plans by Stahr & Hicks, 924 Truxton Ave., Bakersfield, 4 story, bonnet, 56,000 ft., remodel county jail, Mooney Blvd. and Mineral Kings Hy., $1,250,000. Bids approx. June. CD 5-2.

▲† Colo., Denver—COURTHOUSE and OFFICE, General Services Admin., 18 and Fasts, N. E., Wash., D. C., plans by Fisher, Fisher & Davis, Denver, Federal Bldg. and James Sudler Assocs., 1730 Grenamm, federal courthouse, office, $19,595,000. CD 11-20.

▲ Colo., Fort Logan—HOSPITAL, State of Colorado, Planning Dir., State Capitol, Denver, hospital, altering present bldgs., $3,500,000.

▲ Conn., Newington—SCHOOLS, Town, elementary school, Church St., $1,000,000, plans by Moore & Salisbury, 1007 Farmington Ave., West Hartford. South East School addn., 160 Superior Ave., $400,000. Henri B. VanZelm & Assocs., 1107 Farmington Ave., consult. engrs. Marchant & Meyers, 1007 Farmington Ave., West Hartford, structural engrs. CD 9-4.

▲ Ill., Palatine—HIGH SCOOL, Palatine Twp. High School Dist., 150 E. Wood St., plans by Nicol & Nicol, 24 E. Jackson Blvd., Chicago, Zone 4, high school, Quentin Rd. and Illinois Ave., $2,838,000.

▲† Md., Bethesda—LIBRARY, General Services Admin., P. Bldgs. Service, 18 and F Sts., N. W., Wash., 25, D. C., plans by R. B. Connor & W. H. Kinham, Jr., 101 Park Ave., New York, N. Y., National Library of Medicine, National Institutes of Health, $7,000,000 (appropriation). CD 6-20-57.

(Continued on page 80)

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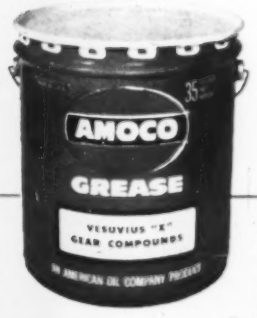

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When you want top performance you want Amoco Lubricants

American Oil Company, 555 Fifth Avenue, New York 17, N. Y.

AMOCO ALSO PRESENTS...

Amoco HDX Oil
Amoco Superior Diesel Oils, S-1, S-2, S-3
Permalube Gear Oil
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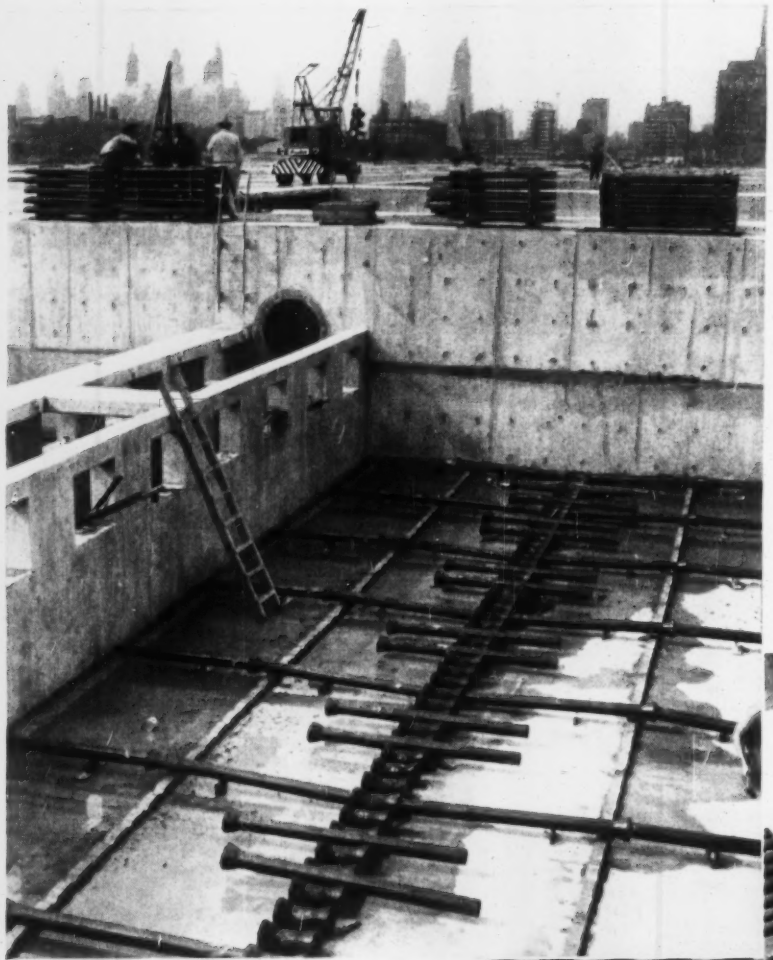
CLOW

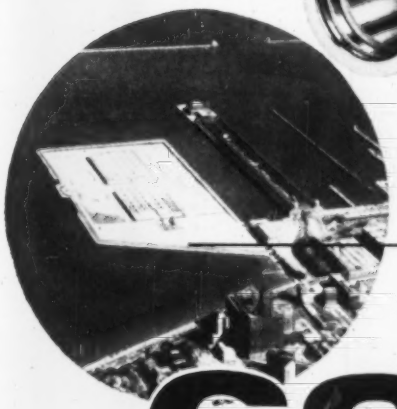


Start of installation of Clow cast iron pipe with intermediate Bell-Tite joints in one of 192 half filter beds which compose the filter underdrain system. The Bell-Tite flare tees are first set in concrete. Note Chicago skyline in distance.

Installation of pipe and tees partially completed. Clow Bell-Tite joints permit easy and rapid assembly—an important factor especially in a job of this magnitude. Bell-Tite forms a pressure-tight joint instantly. Photo shows Neil Sullivan, pipe foreman for George D. Hardin, contractor (right), and Lewis C. Alk, Manager, Clow Technical Service Department.

CAST IRON

PIPE



In Chicago's huge filtration plant–

62 MILES OF CLOW CAST IRON PIPE

in filter underdrain system

Chicago's new Central District Filtration Plant, now under construction, will be the largest in the world. Located on a 61-acre tract of filled-in land on Chicago's lake front, it will have a normal capacity of 960 million gallons of water a day—a maximum capacity of 1680 million gallons a day. The plant was designed by Department of Public Works, City of Chicago, Bureau of Engineering, Filtration Design Division.

Over 62 miles of Clow 4" cast iron pipe—27,264 runs of pipe with 13,632 Bell-Tite® and flare tees compose the underdrain system for 192 half filter beds. Each pipe length is supplied with perforated holes with brass eyelets and has a cast iron plate welded in one end. Each Bell-Tite tee has two eyelet holes.

Easy, rapid assembly permitted by the Clow Bell-Tite joint contributes greatly to economical installation.

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201-299 North Talman Avenue, Chicago 80, Illinois

Subsidiaries:

Eddy Valve Company,
Waterford, N.Y.

Iowa Valve Company,
Oskaloosa, Iowa

CLOW CAST IRON PIPE

(Continued from page 76)

▲† Mass., Bedford—HOSPITAL BUILDINGS—Veterans Admins. Munitions Bldg., Wash., D. C., plans by James H. Ritchie & Assoc., 135 Clarendon St., Boston, Mass., Hospital Buildings 5, 6 and 10. $2,000,000.

▲ Minn., Northfield—SCHOOL—Bd. Educ. $1,100,000 bond election Mar. 18, high school addn., elementary school. Hammel & Green, 1932½ University Ave., St. Paul, archts. CD 12-17.

▲ Minn., North St. Paul—SCHOOL—Bd. Educ. Plans by E. D. Corwin & Assocs., E. 818 First National Bank Bldg., St. Paul, Junior High School. $1,700,000. Bids in March. CD 4-3.

▲ Minn., Richfield (P.O. Minneapolis)—SCHOOL—Bd. Educ., $2,600,000, bond election Feb. 26, Junior High School. Thorshov & Cerny, Inc., 400 Metropolitan Bldg., Minneapolis, archt. CD 12-30.

▲ N. H., Durham—APARTMENTS—University of New Hampshire, Durham, plans by Koehler & Isaak, 1880 Elm St., Manchester, faculty and married student apartments, Demeritt Rd., near Kingsbury Hall. $1,000,000. Constr. 1959.

▲ N. J., Boonton—SCHOOL—Bd. Educ., voted referendum Jan. 22, high school. $2,232,000. Micklewright & Mountford, E. Stuyvesant Ave., Trenton, archts. CD 4-10.

▲ N. J., Elizabeth—SCHOOL—Bd. Freeholders Union Co., Court House, plans by Finne, Lyman & Finne, 259 North Broad St., county vocational and technical high school, Kenilworth-Cranford area. $3,000,000.

▲ N. J., New Brunswick—LIBRARY—Rutgers University, College Ave., plans by Warner, Burns, Toan & Lunde, 414 Madison Ave., New York, N. Y., 2 story, brick, glass, stone library, Douglas College. $1,000,000. CD 1-22-57.

▲ N. J., Point Pleasant Beach—SCHOOL—Bd. Educ., Boro of Point Pleasant Beach, plans by Harold M. Klaisz, 7 North Maple St., Woodbury, high school addn. Trenton Ave. $1,250,000.

▲ N. Y., Buffalo—SCHOOL—Bd. Educ., 801 City Hall, plans by Milton Milstein, 505 Jackson Bldg., Junior High School No. 189, Kensington Heights. $2,200,000. CD 7-11.

▲ N. Y., Hornell—SCHOOL—Hornell Consolidated School Dist., plans by Fudge & Underhill, archts.-engrs., 105 W. Church, Elmira, Senior High School. $1,500,000.

▲ N. Y., Newfane—SCHOOLS—Newfane School Bd., 10 Orchard Pl., voted bonds Dec. 6, Transit Rd. Elementary School, $750,000; Godfrey Rd. Elementary School, Olcott, $1,000,000. Duane Lyman & Assocs., 505 Delaware Ave., Buffalo, archts.-engrs. CD 11-24.

▲ N. Y., Niagara Falls—SCHOOL—Bd. Educ. Admin. Bldg., elementary school, Falls St. $1,000,000.

▲ O., Fairfield—SCHOOL—Bd. Educ., bond election Apr. 14, high school. $1,493,500. Winkler, Ranck & Beeghley, 1st National Bank Bldg., Hamilton, archts. CD 11-11.

▲ O., Youngstown—HOUSING—Youngstown Metropolitan Housing Auth., 976 W. Federal, plans by Beine, Hall & Curran, Gary, Ind., in association with Frank Smith & Assoc., Schween-Wagner Bldg., Youngstown, low-rent housing, incl. 450 units in Youngstown area; plans by Beine, Hall & Curran, Gary, Ind., in association with Arsene Rousseau, 2400 Market St., Youngstown, O., low-rent housing, incl. 150 units in Campbell Area. $6,000,000. Bids in eight months. CD 6-22-56.

▲ Okla., Tulsa—ASSEMBLY—City, City Hall, $7,500,000 bond election Mar. 3, civic assembly center. CD 11-22-55.

▲ Pa., Phila.—SCHOOLS—Bd. Educ., 21st and Parkway sts., plans by Martin, Stewart & Noble, 117 S. 17th St., Junior-Senior High School, Bustleton Pike and Verree Rd. $2,500,000; plans by Eshbach, Pullinger, Stevens & Binder, 1513 Walnut St., elementary school, Bustleton Pike and Verree Rd., $750,000. CD-7-10-56.

▲† Pa., Pittsburgh—FEDERAL OFFICE—General Services Admin., F St. between 18th and 19th sts. N.W., Wash. 25, D. C., plans by Price & Price, Martin Bldg. and Altenhof & Bowa, Park Bldg., Federal Office, Liberty Ave. (grant St. and William Penn Way. $26,138,000. CD 12-7.

▲ R. I., Middletown—SCHOOL—Town School Comm., plans by McConnell & Walker, 1108 Post Rd., Warwick, Junior-Senior High School, off Valley Rd. $1,500,000. CD 2-28-57.

▲ Tenn., Chattanooga—TREATMENT CENTER—State Health Comm., Nashville, plans by Barnett & Pahl, Volunteer Bldg., 1 story, 187,000 sq. ft. with 1 story wings, veterans treatment center for mentally ill. $3,250,000. CD 7-4-57.

▲ Tenn., Johnson City—CLASSROOM—University of Tennessee, Johnson City, bldgs. at E. Tennessee State College. $5,000,000.

▲ Tenn., Memphis—LABORATORIES, etc.—University of Tennessee, Memphis, laboratories, class rooms, dormitories for medical section. $2,200,000.

▲ Tenn., Murfreesboro—STATE COLLEGE—University of Tennessee, Murfreesboro, state college, classroom, dormitory, Middle Tennessee State College. $2,000,000.

▲ Tex., Denton—EDUCATIONAL, etc.—North Texas State College, plans by Wilson, Patterson & Assocs., 601 Bailey St., Fort Worth, educational and home economics bldg. $1,000,000. CD 11-7-57.

▲ Tex., Irving—SCHOOL—Irving Ind. School Dist., plans by Wright, Ruth & Assocs., 4343 N. Central Expressway, Dallas, high school. $2,000,000. CD 12-16.

▲ Tex., La Mesa—SCHOOL—La Mesa Ind. School Dist., plans by John Lyon Reid, 1019 Market St., San Francisco, Calif., high school. $2,500,000.

▲ Utah, American Fork—SCHOOL—Alpine School Dist., American Fork, voted bonds Jan. 20, schools, Orem. $1,450,000.

▲ Utah, Salt Lake City—FEDERAL OFFICE—General Services Admin., Denver Federal Center, Denver, Colo., plans by Deseret Architects & Engineers, United Savings Trust Bldg., and Snedaker, Budd, Monroe & Assocs., 12 Post Office Pl., Federal Office, North Temple and Main Sts., $10,775,000. CD 1-16.

▲ Wash., Seattle—BUSINESS ADMIN., etc.—University of Washington, Zone 5, business admin. bldg., $2,700,000, bids 1959 or 1960; Buildings & Grounds Dpt. bldg., $487,850; primary electrical distr. sys. on campus, $350,000; Bouillon, Griffith & Christofferson, 1411 4 Ave. Bldg., Zone 1, consult. engrs.

▲† W. Va., Martinsburg—POST OFFICE, etc.—General Services Admin., General Services Bldg., F St. between 18 and 19 Sts. N. W., Wash., D. C., plans by Frederick Faris, 1117 Chapline St., Wheeling, W. Va., post office and court house. $1,400,000.

▲ Wis., Madison—ENGINEERING, etc.—University of Wisconsin, engineering bldg. addn., $5,244,750; mathematics bldg., $2,250,000; extension division bldg., $1,675,000.

▲ Wis., Milwaukee—SCHOOL—Bd. School Directors, 1111 N. 10 St., Zone 3, plans by Eschweiler & Eschweiler, 720 E. Mason St., and Brust & Brust, 259 E. Wells St., John Marshall High School. $5,000,000. Bids soon. CD 7-5-57.

▲ Ont., Toronto—SCHOOLS—North York Bd. Educ., 15 Oakburn Crescent, Boulevard Drive Public School, $444,600; Dufferin Junior High School for 805 students, $948,290; Stanley Road Public School, $444,600; Finch Main Public School, $530,100; plans by Cox & Moffet, 4894 Dundas St. W., 1 and 2 story, Victoria Park Collegiate wing, $1,234,465. C. D. Carruthers & Wallace Consultants Ltd., 92 Yorkville Ave., consult. engrs.

▲ Que., Chicoutimi—SCHOOL—School Comm., Chicoutimi, plans by Lamontagne & Gravel, 31 rue Racine West, 3 story, 60 x 420 ft. high school, east end of rue des Oblats. $1,250,000. William Gravel, 31 rue Racine West, consult., engr. CD 1-26-54.

▲ Que., Oka—SCHOOL—Provincial Dpt. Agriculture, Parliament Bldgs., Quebec City, School of Agriculture. $1,000,000.

COMMERCIAL BUILDINGS

▲ Ark., Little Rock—SHOPPING CENTER—University Plaza Shopping Center, Inc., c/o Donald H. Shandeling Assocs., 6505 Wilshire Blvd., Los Angeles, Calif., and 204 Louisiana St., Little Rock, plans by Dave Jacobson, 6505 Wilshire Blvd., Los Angeles 48, Calif., 1 story, Broadway Plaza Shopping Center, Broadway, Spring St., West 23 St. and Roosevelt Rd. $3,000,000. CD 1-23.

▲ Calif., Oakland—HOTEL, etc.—Sheraton Hotel Corp. of America, c/o Ned Dixey, consult. engr., 470 Atlantic Ave., Boston, Mass., hotel, swimming pool, 3600 Broadway. $7,000,000. CD 10-30.

▲ Calif., San Francisco—APARTMENT—Fred Kaiser, 1230 N. St., Sacramento, 15-20 story apartment. $5,000,000.

▲ Calif., Santa Cruz—HOTEL—P. J. Paretta, 1501 Los Frigues Blvd., Santa Clara, hotel, East Cliff Dr., Lighthouse Point. $3,000,000.

▲ Calif., Sunnyvale—APARTMENTS, etc.—Yountian Constr. Co., 108 Middlefield Rd., Palo Alto, 29 glass, concrete apartments (120 units), incl. swimming pools, inside garages, Everett and Channing Aves. and Webster St. $3,000,000.

▲ D. C., Wash.—HOME—Archdiocese of Washington, 1721 Rhode Island Ave., N.W., plans by Philip Schmidt, 1420 K St. N.W., St. Anne's Infant Home, N.E. Washington. $2,000,000.

▲ Ill., Chicago—MOTOR COURT—Owner, c/o Chester A. Stark Assocs., archts., 915 Glendale Rd., Glenview, motor court, Lincoln and Devon Aves. $2,000,000.

▲ Ill., Lisle—SHOPPING CENTER—Pat Reidy, Box 5312, plans by Wright & Co., 935 Curtiss, Downers Grove, shopping center, Main and Maple Sts. $1,000,000.

▲ Kan., Prairie Village—APARTMENT—Jerome E. Grossman, 640 Minnesota, Kansas City, Kan., garden type apartment, incl. 156 units, 195-car parking, 71st and Mission Rd. $2,000,000.

▲ Me., Portland—SHOPPING CENTER—Arthur A. Senter, Jr., c/o Allied Engineering, Inc., consult. engr., 649 Forest Ave., 1 and 2 story, masonry, brick shopping center, US Rts. 1, Falmouth-Foreside, near here. $1,500,000.

▲ Md., Bethesda—HOSPITAL WING—Suburban Hospital, 8600 Old Georgetown Rd., plans by Faulkner, Kingsbury & Stenhouse, Ring Bldg., Wash., D. C., hospital wing. $1,750,000.

▲ Minn., Minneapolis—APARTMENT—T. F. Chapman, 3524 Parkway Ave. and D. J. M. Lenk, 2838 Stevens Ave., both Minneapolis, plans by Brandhorst & Leadholm, 7600 Hy. 7, 18 story Calhoun Towers apartment, Excelsior Blvd. and West 32nd St. $7,600,000.

▲ Minn., Minneapolis—HOTEL, etc.—Mark Twain Properties, Inc., 1023 Marquette Ave., plans by Thorshov & Cerny, Inc., 400 Metropolitan Bldg., 12 story, 250-unit hotel, incl. 3-story, 70-unit motel, 10th and 11th Sts. and Marquette and Second Aves. $3,400,000. Constr. 1959.

▲ Mo., St. Louis County—YMHA BLDG.—Jewish Community Centers Assn., 724 N. Union Blvd., St. Louis, Zone 8, plans by Russell, Mullgardt, Schwarz, Van Hoefer, 1620 Chemical Bldg., 721 Olive St., St. Louis, Zone 1, 100,000 sq. ft. YMHA bldg., Lindbergh Blvd. and Schuetz Rd. $2,000,000. CD 7-6-56.

▲ Neb., Omaha—HOSPITAL—St. Catherine's Hospital, 9th St. and Forrest Ave. (Sister Mary John RS M admin.) plans by Leo A. Daly, 633 Ins. Bldg., Omaha, hospital with helicopter landing ports, West Omaha, 30 acres, Old Center St. between 75th and 78th Sts. $5,000,000. CD 1-19-56.

▲ N. J., Sewell—RESIDENTIAL DEVELOPMENT—Goodwin Housing Corp., Chelten Parkway and Kings Hy., Merchantville, plans by Dante J. D'Anastasio, 1815 Federal St., Camden, 1,000 unit residential development, Washington Twp. $13,000,000. Haworth, Benke & Girard Assocs., 213 Kings Hy. E., Haddonfield, engrs.

▲ N. J., Summit—SCHOOL—Bd. Trustees Kent Place School, 42 Norwood Ave., plans by Emil Schmidt, 586 Central Ave., East Orange, library, school rooms and recitation rooms. $1,000,000.

▲ N. Y., Buffalo—SHOPPING PLAZA—Clearfield Plaza, Inc., 85 Aspinwall Pl., Tonawanda, single story, 80,000 sq. ft. masonry shopping plaza, incl. parking facilities. $2,000,000.

▲ N. Y., New York—HOUSING—Empire City Savings Bank, 2 Park Ave., Zone 16, plans by Kahn & Kaskovitz, Inc., 44 Court St., Brooklyn, Zone 2, Empire City Housing, 18 story, 180 units on blockfront on west side of Manhattan Ave. from West 122nd to West 123rd Sts. $2,000,000. CD 5-17-56.

▲ N. Y., New York—APARTMENT—Henderson House, Inc., c/o Sylvan Bien, archt., 342 Madison Ave., Zone 17, 20 story apartment, 541 East 86th St. $1,000,000.

▲ N. Y., New York—ANIMAL HOSPITAL—New York Women's League for Animals, 350 Lafayette St., Zone 12, plans by Chapman, Evans & Delehanty, 50 Broadway, animal hospital, 511-19 East 61st St. $2,000,000.

▲ N. Y., Rochester—HOTEL—Owner, c/o Maurice Forman, c/o B. Forman Co., 46 Clinton Ave. S., plans by Victor Gruen, 31 W. 12th St., New York, hotel. $6,000,000. Hotel Corp. of America will operate. CD 1-20.

▲ N. C., Laurinburg—COLLEGE—Consolidated Presbyterian College, Laurinburg, plans by A. G. Odell, Jr. & Assocs., 109 West Third St., Charlotte, 4-year co-educational college, Approx. $5,000,000. Bids in May or June. CD 3-12-56.

▲ O., Steubenville—SHOPPING CENTER—Edward J. DeBartolo & Assoc., 2620 Market St., Youngstown, 250,000 sq. ft. shopping center, incl. parking, Sunset Blvd. $2,500,000.

▲ O., Toledo—MOTEL-HOTEL—Robert E. Lehman, Fremont, O., 3 unit brick, steel, concrete motel-hotel, incl. 250-car paved parking, swimming pool, corner Monroe and W. Bancroft Sts. $1,000,000. Constr. 1960.

▲ Pa., Phila.—APARTMENTS—Joseph B. Simon Co., 1616 Walnut St., plans by Sabatino & Fishman, 116 S. 19th St., 4 apartment bldgs. (180 apartments), Godfrey Ave. $2,500,000. Bids soon.

▲ Tex., Fort Worth—MOTOR HOTEL, etc.—Sherman Ambassador Hotel, c/o Associated Architects & Planners, O'Neil Ford & Sam B. Zisman, 528 King Wm. St., San Antonio, Richard Colley, 412 S. Tancahua St., Corpus Christi, and A. B. Swank, Jr., 2611 Cedar Springs Rd., Dallas, motor hotel, Imperial Inn, State Expressway 360 and Fort Worth-Dallas Turnpike in Great Southwest Industrial Dist. between Dallas and Fort Worth. $2,000,000.

▲ Wash., Kirkland—REST HOME—F. Martin, c/o E. K. Mahlum, archt., Lloyd Bldg., Seattle, Zone 4, 200-unit rest home. $2,000,000. Work to begin next summer.

▲ B. C., Vancouver—REHABILITATION CENTER—G. F. Strong Rehabilitation Center, 900 W. 27 St., plans by Thompson, Berwick & Pratt, 1553 Robson St., 5 story, 60 x 200 ft. and 2 story wing, 60 x 100 ft. reinforced concrete rehabilitation center, W. 27 and Oak Sts. $1,000,000.

▲ Man., Winnipeg—HEADQUARTERS—Federated Co-operative Ltd., 211 Ave. D North, Saskatoon, Sask., plans by Smith, Carter, Searle & Assocs., 65 Dewdney Ave., headquarters. $1,000,000.

▲ Ont., Ottawa—HOSPITAL—Little Company of Mary Sisters, 15 LeBreton St., 200 bed hospital, Fisher Ave., Baseline Rd.). $2,000,000.

▲ Ont., Toronto—SEMINARY—Jesuit Fathers, 403 Wellington St. W., plans by Peter Dickinson Assocs., 1910 Yonge St., seminary, 2525 Bayview Ave. $2,500,000. CD 4-4-57.

▲ Que., Aylmer—HOMES—Krieger Homes, Ltd., 275 Lees St., Eastview, Ottawa, Ont., 200 homes, Eardley Rd. and Broad St. $2,000,000.

▲ Que., Charlesbourg—COLLEGE—Freres de St. Vincent de Paul, Provincial House, 30 Ste. Foye Rd., Quebec City, plans by L. P. Lefebvre, 10 44th St. W., 3 story, two wings, Classical College, between 47th St. and 46th Ave. $1,000,000.

▲ Que., Drummondville—HOSPITAL—Rev. Soeurs Grises, 1190 Guy St., Montreal, plans by Paul Labrecque, 880 Blvd. Mercure, 300 bed hospital. $2,000,000. CD 2-21-49.

▲ Que., Montreal—APARTMENT—Federal Constr. Ltd., 1448 Fort St., plans by Charles Greiner, 3600 Barclay

Ave., 3 story, partly brick apartment, 107 and garage, Ave. near Champlain Blvd., $4,000,000.

INDUSTRIAL BUILDINGS

▲ Ala., Jasper—MILL, etc.—Pittsburg Co., 721 Bankers & Loan Bldg., Des Moines, Iowa, poultry feed mill, automatic, 4 mi. SE on U.S. 78, northwest of here, $1,000,000; mill equipment, $...

▲ Calif., Richmond—PLANT—Bray Lubricants Co., 800 Central Dr., plant expansion, Marine Terminal for Bulk Liquids, $1,000,000.

▲ Conn., Berlin—GARAGE—Connecticut Light & Power Co., Belden St., garage, $1,160,000.

▲ Conn., Stratford—WAREHOUSE—Wm. B. Meyer, Inc., 50 Moffitt St., 125,000 sq. ft. brick storage warehouse addn., $1,000,000.

▲ Ind., Indianapolis—RAW MATERIALS HANDLING CENTER, etc.—Eli Lilly & Co., 740 S. Alabama Ave., (1) raw materials handling center, W. Morris St., White River Parkway, and Dorman St., $4,000,000; (2) and biotics product control addns., $2,000,000; (3) control laboratory, $3,500,000.

▲ Minn., St. Paul—PLANT—Dura-Stone of Minnesota, Inc., 414 Pioneer Bldg., cellular gas concrete products plant, 1 mi. east of here, near Pa. 12 on Lake Elmo Rd., $1,000,000. Constr. Spring 1959.

▲ Mo., Kansas City North—GRAIN ELEVATOR—Missouri Farmers Assn., Bd. Trade Bldg., Kansas City, Mo., grain elevator, $5,000,000. Hoit...

▲ N. J., Yardville—AGRICULTURAL RESEARCH CENTER—American Cyanamid Corp., 30 Rockefeller Plaza, New York 20, N. Y., plans by Voorhees, Walker, Smith, Smith & Haines, 101 Park Ave., New York, N. Y., for agricultural research center, West Windsor Twp., $7,000,000. Bids in Spring.

▲ Pa., Barren Hill—MANUFACTURING, etc.—McNeil Laboratories, Inc., 2900 N. 17th St., Phila., plans by Vincent G. Kling, 918 Chestnut St., Phila., mfg. bldg., office and laboratory, $1,500,000.

▲ Pa., Lansdale—MANUFACTURING PLANT—Lansdale Tube Co., Div. Philco Corp., plans by Wallace & Warner, Lancaster, and Martin Aves., Rivn Manor, 1 story, 100,000 sq. ft. mfg. plant, $1,000,000. Sinclair & Padalesky, 630 Spruce St., Phila., consult. engrs. CD 10-17-57.

▲ Tex., Sunray—PLANT—Helex Co., Northern Natural Gas Co., 2223 Dodge St., Omaha, Neb., and Air Products, Inc., Trexlertown, Allentown, P.O., helium plant, 220,000,000 cu. ft. natural gas per day, getting 260,000,000 cu. ft. helium per year, $13,500,000.

▲ Tex., Pearsall—PLANT—Medina Electric Cooperative, Hondo, 60,000 kw. steam electric generating plant, 2 mi. N.E. of here, $11,480,000. Lockwood, Greene & Engrs., 612 S. Michigan St., Chicago, Ill., consult. engrs. CD 4-22-...

▲ Wash., Tumwater—BREWERY—Olympia Brewing Co., Lyon, by Worrell & Worrell, Chambers Bldg., 3 story, 81 x 80 ft. steel frame brewery addn., $1,700,000. Work to begin in Aug.

▲ Que., Sherbrooke—FACTORY—Watson Co., Lawrence Ltd., 150 Inspection Rd., Toronto, Ont., clothing factory, east of Burlington St., $5,000,000.

UNCLASSIFIED

▲ Calif., Rocklin—RECREATION CENTER—Rocklin Rotary Club, % W. F. Mayhew, Jr., Rocklin, plans by Wm. Wurster, Dean & Anshen, San Francisco, for Rocklin Recreation Center, $3,000,000. Work to begin in Spring. Engr. 1275 N. Sweetzer, Los Angeles, Calif., engr.

▲ Colorado and Utah—GAS PIPE LINES—Colorado Interstate Gas Co., 2441 Champa St., Denver, Colo., gas pipe lines, Rocky Mountain Region, $35,000,000.

▲ Connecticut—TRANSMISSION LINES—Connecticut Light & Power Co., Selden St., Berlin, Conn., $350,000; transmission line from Glastonbury to Norwich, $280,000; substation and control, $4,450,000. Stone & Webster Engineering Corp., 90 Broad St., New York 4, N. Y., engr. $2,450,000. Work to begin in Jan. $220,000.

▲ Conn., Groton—SUBMARINE BASE—General Dynamics Corp., Electric Boat Div., Eastern Point Rd., Groton, plans by Eggers & Higgins, 527 Madison Ave., New York, N. Y., for machine shop addn., with north yard crane, 110 ft. span, 30 ton capacity, and 2 story, 60 x 100 ft. engineering addn., $2,000,000.

▲ Kansas, Missouri, Iowa, Illinois and Michigan—PIPE LINES—Michigan Wisconsin Pipe Line Co., 910 Griswold St., Detroit 26, Mich., 152 ft. 12 in. pipe line and appurtenances, $31,157,000. FPC gave temporary authorization to build.

▲ Miss., Jackson—STADIUM, etc.—Southwest Hinds Co., Consolidated Separate Municipal School Dist., 1 mi. south of Terry, addn., $1,000,000. Milner, Baker & Dent, 1947 North State St., Jackson, engr. CD 1-22-58.

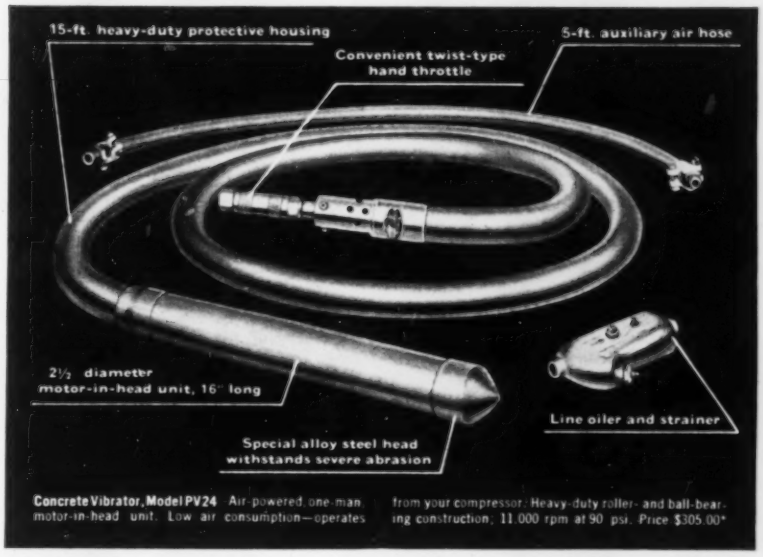
▲ New York—PLATFORMS—New York City Transit Auth., 370 Jay St., Brooklyn, Zone 1, widen platforms, including platforms under part over crossings, Brooklyn Bridge—Fulton St. Subway.

▲ Tennessee and Mississippi—RAILROAD—Corinth & Counce Railroad, John J. Ross, pres., Savannah, Tenn., 14 mi. railroad from Corinth, Adams Co., Miss., to Counce, Hardin Co., Tenn., $1,400,000.

▲ Newfoundland, St. John's—FINGER WHARF, etc.—Dept. P.W., Hunter Bldg., Ottawa, Ont., finger wharf, marginal wharf, railroad, inner harbor, marginal wharfs, at North Shore, boat basin and access roads, $10,000,000.

(Proposal Advertisements see pp. 90 to 92)

POWER to boost job efficiency with REMINGTON tools


15-ft. heavy-duty protective housing
Convenient twist-type hand throttle
5-ft. auxiliary air hose
2½ diameter motor-in-head unit, 16" long
Special alloy steel head withstands severe abrasion
Line oiler and strainer

Concrete Vibrator, Model PV24—Air-powered, one-man, motor-in-head unit. Low air consumption—operates from your compressor. Heavy-duty roller- and ball-bearing construction; 11,000 rpm at 90 psi. Price $305.00*

Air circular saw, Model P128—12" blade. Husky 2½ hp motor safe from shock hazard around wet piers and wharfs. With case, blade and hose. **Price $345.00***

Generator Set, Model 3WAS—3,000 watts capacity, 25 amp. AC at 115 v.; 60-cycle; four take-off plugs. Reliable Wisconsin 8-hp. engine. **Price $525.00***

Planer, Model 3P—Knob depth adjustment can be changed while cutting fast, easy to operate. 8.4 amp. 115-v., AC-DC motor, weight 15 lbs. **Price $170.00***

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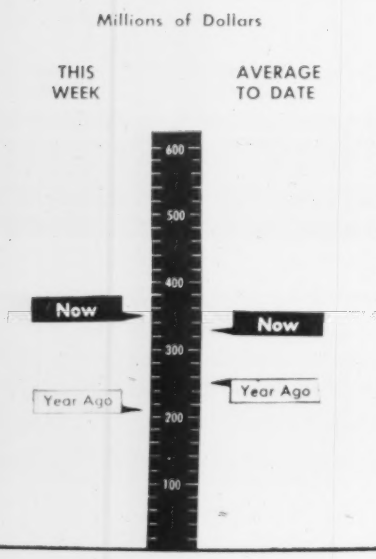
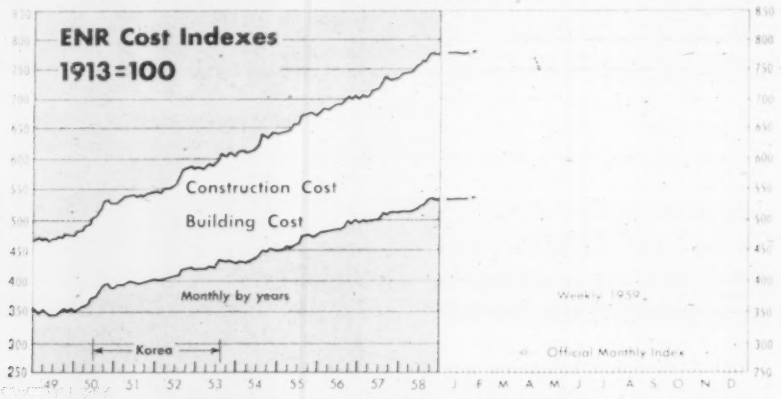
Construction Scoreboard

CONTRACTS




ENR Cost Indexes
1913=100
Construction Cost
Building Cost
Monthly by years
Weekly 1959
Korea
Official Monthly Index
49 50 51 52 53 54 55 56 57 58 J F M A M J J A S O N D

CURRENT COST INDEXES

ENR INDEXES (1913=100), 20-cities' average	Week of Feb. 5 1959	% Change from Jan. 8 1959	% Change from Feb. 6 1958
Construction Cost	779.62	+0.2	+4.8
Building Cost	538.12	+0.4	+4.3

To convert above indexes to 1926 = 100: Divide Construction Cost by 2.080; Building Cost by 1.850.
1939 = 100: Divide Construction Cost by 4.770; Building Cost by 3.518.

AMOUNT OF CONTRACTS LET

By Ownership	This Week millions	Cum. 7 wks 1959 millions	Chge '58-'59 %
All Heavy Constr.	$346.3	$2,271.6	+27
Private	207.6	1,047.6	+31
Public	138.7	1,224.0	+24
State & Municipal	96.1	858.9	+6
Federal	42.6	365.1	+101
By Type of Work			
Public			
Waterworks	3.6	51.4	+81
Sewerage	8.9	72.1	−6
Bridges*	5.0	86.2	+97
Highways	36.2	330.8	+20
Earthwork, Waterways	12.2	71.9	−11
Buildings, Excl. Housing	30.9	325.8	+31
Housing	12.8	63.3	−51
Unclassified	29.1	222.4	+282
Private			
Buildings			
Mass Housing	128.7	467.1	+81
Commercial	62.7	275.5	+30
Industrial	13.1	256.7	−11
Unclassified	2.8	48.4	+11

*Includes private bridges.

NOTE: Minimum size projects included are: Waterworks and waterways, $53,000; other public works, $88,000; industrial buildings, $110,000; other buildings, $400,000.

. . . CAPITAL

New Capital for Construction	Week of Feb. 5 millions	Cum. 6 wks 1959 millions	Chge '58-'59 %
Corporate Securities	$24.7	$366.0	−16
State and Municipal:			
All Except Housing	64.9	569.2	−29
Housing		1.3	+30
Federal Loans	1.9	7.1	−78
Federal Aid			
Total Nonfederal	$91.5	$943.6	−26
Federal Appropriations:			
Projects in U. S.			
Outside U. S.			
Total New Capital	$91.5	$943.6	−26

CONTRACTS AWARDED

	Jan. 1959 (millions)	1-Mos. 1959 (millions)	% Change from 1958 Jan.	% Change from 1958 1-Mos.
Total U. S., ENR-reported	$1,641.1	$1,641.1	+30	+30
Private	685.5	685.5	+32	+32
Public	955.6	955.6	+30	+30
State and Municipal	300.6	300.6	−51	−51
Federal	655.0	655.0	+418	+418
ENR Volume Index, 1913=100	460	460	+25	+25

NEW CONSTRUCTION CAPITAL

Total U. S.	$852.1	$852.1	−12	−12
State and Municipal Bond Sales	505.6	505.6	− 7	− 7
Corporate Security Sales	341.3	341.3	−14	−14
Federal Loans, Aid (nonfederal work)	5.2	5.2	−83	−83
Federal Appropriations (federal work)				

MATERIALS SHIPMENTS

	Unit	Oct.-Dec. 1958	Cum. No. of Mos.	Percent Change from Year Ago Mo.	Cum.
Portland Cement, Bur. Mines	thous bbls	16,623 D	307,040 12	− 1	+ 6
Concrete Paving Awards, PCA	thous sq yd	8,589 N	111,080 11	+117	+35
Fabricated Structural Steel:	thous tons	267 D	3,664 12	−17	−12
Bookings, AISC	thous tons	197 D	2,773 12	+40	−10
Reinforcing Bars, Net, AISI	thous tons	143 D	2,035 12	−43	−11
Lumber, NLMA	mil fbm	2,640 D	33,659 12	+ 16	− 1
Orders	mil fbm	2,797 D	33,312 12	+ 21	+ 0.2
Production	mil fbm	2,678 D	33,275 12	+ 22	− 1
Clay Products, Bureau of Census					
Brick, Unglazed, Common, Face	mil bri	695.5 O	5,117 4 10	+15	+ 4
Vitrified Clay Sewer Pipe	thous tons	189.6 O	1,483 3 10	+15	+ 3
Structural Tile, Unglazed	thous tons	51.4 O	471 8 10	+10	− 6
Asphalt Products, Bureau of Census					
Asphalt Roofing	thous sales sqs	3,855.2 N	55,730 7 11	+ 4	+10
Asphalt Siding	thous sales sqs	96.5 N	930 4 11	+21	− 1
Aluminum, Wrought, Net, Bur. Census					
Sheet and Plate, non-heat treatable	mil lbs	78.6 N	866 7 11	+21	− 2
Wire and Cable	mil lbs	17.8 N	243 7 11	− 6	− 6
Extruded Shapes, soft alloys	mil lbs	61.9 N	631 3 11	+13	+ 5

EMPLOYMENT AND FAILURES

Contract Const. Employment, BLS	thous	2,436 D	2,648 12	** − 5	− 6
Contractor Failures, Dun & Bradstreet					
Number		176 D	2,162 12	+ 1	+ 3
Liabilities	thous	$10,058 D	$115,115 12	+76	+ 4

** Average per month

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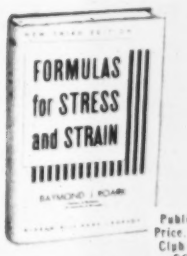

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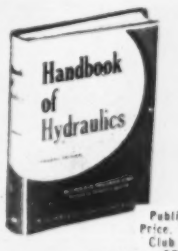

Publisher's Price, $10.00
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NR-2-12

State Finances: Where Do They

- **Legislatures are getting record budgets, some of them tied to higher taxes.**
- **Some governors are asking more spending on all fronts while the lawmakers are having trouble fending off pleas from taxpayers for mercy.**
- **The dilemma: How to continue all needed construction and service programs without boosting taxes? Here's the picture across the country . . .**

Forty-six state legislatures are now in session. Almost every member of these bodies knows their respective states are in financial trouble. Construction and social welfare programs—past, present and promised—will cost billions of dollars.

Problem: How to pay the old bills and prepare for the new bills without raising existing taxes or introducing new ones.

Answer: Not easily done.

Alternative: Cut some programs.

Possibility: Politically, it may be wiser to reduce outlays than boost taxes.

Actuality: Governors' inaugural and budget messages contained larger figures and pleas for pay as you go. They either bluntly called for higher levies or broadly hinted that the lawmakers should do this on their own initiative.

This puts the hot potato in the hands of the individual legislators, who must face their constituents almost daily.

The motorist appears to be the initial whipping boy and the gasoline pump is the post he is tied to. New Yorkers will feel the lash March 1. On that date, gasoline will go up from its present four cents a gallon to six cents. Diesel fuel will move from six cents a gallon to nine cents. The fuel tax increase, however, will provide only an estimated $69.5 million of the $277-million tax boost called for by Gov. Nelson Rockefeller.

Presenting a record budget of more than $2 billion, Governor Rockefeller told the legislature that 80% of the increased outlays were either required by law or necessary to continue programs already started. In both cases, large amounts of construction are involved.

He now indicates that if all the funds are not obtained, some construction programs will suffer. He's in no mood for compromise. The question is: Will he be forced to?

Opposition to the Rockefeller plan developed overnight. Most severe storm revolves around a hefty increase in the state income tax.

There is apparently a strong grass-roots feeling against the new tax blow. However, many of the New Yorkers calling for a halt to the tax boost proposals are among those who asked for, and voted for, the programs the new taxes will buy. A large portion of those programs will be provided by the construction industry.

Some examples for the fiscal year starting April 1:

- $361.8 million for highways including $180 million of federal aid. Of the total, $23.5 million would pay for engineering services.
- $48 million for state university buildings.
- $16 million in state aid to counties and towns for highways and public works.
- $653.1 million for state aid to communities for education. Of this, $11.5 million is earmarked directly for construction of schools in areas hit by sudden population expansion. A generous part of the $641 million in aid funds not earmarked directly for construction probably will go to, or lead to, building at the local level.
- $12.5 million for other state public works.

The New York lawmakers must decide whether to cut some construction or other non-construction services, raise taxes or authorize new borrowing. The latter course could prevent budget cuts without raising taxes as high as urged, but eventually the piper must be paid in the form of debt service.

1. Day of Reckoning

In New York and elsewhere, debt is no small item. The states are learning this the hard way. Piling new debt on old debt, particularly in periods of less than a booming economy, as most states have recently experienced, merely delays the day of reckoning. Beliefs on this point may be as diverse in number as there are states. But there now are indications that some second thoughts are developing on new borrowing.

The thinking in New Mexico is of interest. That state's highway department has urged the state legislature to find other means of financing highway construction. This is the same highway department that in 1955 asked and received permission to sell bonds for roads.

The department now complains about the high cost of borrowing. Here's why. During the fiscal biennium ended last June 30 it paid out more for bond service than it received from bond sales. In that period, $4 million in new debt was taken on. In the same period, it spent $5.1 million to retire and pay interest on previous issues.

Now outstanding are debentures totaling $12.9 million, which must be retired by April 1963. Interest payments on those debentures will total $896,163 by that date.

For this reason, the department now urges a reduction in the mileage of the state highway system. It says the present system contains hundreds of miles of road "serving almost no one, while failing to include roads that are virtually lifelines into small villages."

Any groundswell of similar thinking is not calculated to put construction on easy street. Neither will it solve problems. In almost all cases, public facilities are a necessity, not a luxury.

In Michigan also, the legislature may do some rein-tightening. The state has a severe case of economic indigestion.

Two weeks ago, Gov. G. Mennen Williams personally appealed for early payments of taxes due in the spring. General Motors came through with a $13-million payment. This will more than cover the actual cash shortage of

Go From Here?

$11 million that would have occurred this week.

The governor, however, does not intend to reduce construction expenditures. His new general fund spending totals $424 million, compared to a current fiscal year budget of $379.5 million. To meet the proposed outlays, Governor Williams recommended $140 million in new taxes; a 5% tax on corporation profits and a 2½% personal income tax.

Legislators' reactions to the proposal are mixed. Their course of action probably is not yet resolved, but they will undoubtedly give some close study to the governor's spending proposals. Among them is a plan for a $146.6-million state buildings program to be financed by bond issues.

Highways apparently will not suffer. Funds for roads are not controlled by the legislature. They are separate from the general fund. Revenue received from highway-user taxes is expended for roads. Revenue for highway purposes for the new fiscal year is currently estimated at $342.7 million, compared with $329.3 million in the present fiscal year.

California will be the scene of major fiscal battles. Gov. Edmund G. Brown, the state's second Democratic governor, handed the legislature a record budget for the fiscal year starting July 1. It totals $2.2 billion.

Californians, like New Yorkers, will pay for it with tax increases. The governor's proposals would increase taxes by $236 million yearly. His announcement promptly lost him the support of organized labor, which was a potent factor in his winning office.

Under his proposals, $382 million would go to construction in the new fiscal year. The breakdown:

- $218 million, highways.
- $95.5 million, state buildings.
- $52.9 million, water development.
- $15.6 million, beaches and parks development.

The water development program includes immediate appropriation of $38 million for work on a plan to store water in the northern part of the state and export it by canal systems to the southern part. This would be part of a sweeping $658-million water development program (ENR Jan. 29, p. 27).

The $95.5 million for state buildings would be about $50 million under the amount voted by the legislature for the current fiscal year.

In addition to the governor's spending proposals, the legislature is giving consideration to a bond issue to help local school districts carry out needed building. Lawmakers' proposals range from $200 million to $500 million. Most likely, the lowest figure will meet with legislative approval.

Tax proposals include a 2% severance tax on the gross of petroleum products, higher income taxes, higher tobacco products taxes, excise tax on beer, and a boost in racetrack betting tax.

The water development proposal appears to have a good chance this year. Most legislators believe 1959 will be the year of decision on this issue, which has been bitterly contested because of sectional differences.

The lawmakers will have to look elsewhere to make their cuts. A small part may come out of construction, but basically there appears to be little fat that can be carved. Savings would have to come from other departments or even more reliance may be placed on bond issues.

However, approval of the water development plan would involve eventual sale of $500 million in bonds next year or the year after. A question may remain as to how much borrowing may be done in the face of that potential debt in the not-too-distant future.

In Delaware, the figures are not as large, but the problem is perhaps more acute. Last month, for the fifth consecutive month, the state obtained short-term loans to cover operating expenses and debt service.

Under these conditions, Gov. J. Caleb Boggs went before the legislature with a balanced budget for the new fiscal year starting July 1. Describing the state's financial condition as "critical," the governor handed the lawmakers a $138.6-million budget.

One of the major cuts was in the highway department. Its request for $20 million was slashed in half. All of the cut will not strike directly at roads, however, since the department is also responsible for beach erosion control, motor vehicle registration, mosquito control, state police and drainage.

Eliminated from Governor Boggs' budget was $1.2 million for aid to municipalities for street construction.

In Florida, where the legislature is not yet in session, a cost-cutting ax already is threatening. The Cabinet Budget Commission says that in the two-year period starting July 1, construction programs must be cut. The damage will be relatively heavy. It recommends a state building program of $63.3 million. In the current biennium building will run $129.4 million.

The cut is mandatory, however, because the state constitution requires that the state operate on a pay-as-you-go basis. Deficit financing is prohibited. The state's income is off because of severe weather conditions last year and air transport strikes this year. Recent surges in tourist business may eventually bring a reappraisal of planned spending, but it probably will not equal the volume of the current biennium.

2. Pay as You Go?

The call for a return to pay-as-you-go is most apparent in highway financing. Many states are eligible for more federal-aid funds than they can match in their new fiscal years with current estimated revenue. So from many quarters states are being urged to boost their highway-user taxes and fees. Some of the recommendations come from the governors, some from organized pressure groups.

Requests for higher motor-fuel taxes have been either stated or hinted at in such states as Arkansas, Massachusetts, Missouri, Minnesota, Pennsylvania, Texas, Vermont, Virginia, Washington, Ohio, Oregon and Oklahoma.

While the cash operation trend is strong, it is not universal. Alabama's Gov. John Patterson called the legislature into session three months earlier than scheduled. He will ask for $109 million in new bond financing, $59 million for highways and $50 million for school building.

Gov. Abraham A. Ribicoff of Connecticut will deliver his budget message later this month. He is expected to ask for abandonment of that state's current pay-as-you-go highway policy. His suggestions for road bond issues have ranged from $400 million to $700 million. Governor Ribicoff campaigned for reelection last year on the higher figure. Now he speaks of the lower figure.

Whether states decide to finance with cash or bonds—one fact stands out: Many states are at a crossroads. They must decide what is essential and what is not. Then they must be prepared to assume a larger tax burden, either now or in the future.

Schools are not free, sewage treatment plants and disposal systems are not free, roads are not free. Their construction costs must be paid.

Housing Bill Lighter, but Safer

Chances are the omnibus housing bill that finally lands on President Eisenhower's desk will look much like the one passed by the Senate last week. It will contain far more than he wanted, but less than he feared (see right).

Now the bill has a better chance of escaping the President's veto than did early Senate drafts. But if the President says "no," Democrats think they have the votes to override him.

The Senate's bill is less than expected largely because of the moderate axwielding by Democratic leader Lyndon Johnson.

With the majority leader in control, the Senate quickly knocked $250 million in loan authority out of the bill. It halved a proposed $300-million direct housing loan program for veterans in rural areas, trimmed $100 million off the proposed $400-million addition to the federal loan program for college dormitory construction and then sat back to await housing action by the House of Representatives.

A House subcommittee later backed a bill more liberal than the Senate's, but it could be cut down before House passage. Any differences between the two bills will be ironed out in Senate-House conference committee.

Both House and Senate agreed to raise the VA rate to 5¼%, equal to the current FHA rate. But it is an inflexible maximum for VA rates. If necessary FHA can raise its going rate as high as 6%. Thus the Administration gets less than it asked on this point. It wanted to put VA and FHA rates on equal administrative footing.

Apart from fighting a losing battle on urban renewal and public housing (see table), President Eisenhower has other frustrations coming in housing legislation.

For example, shortly after the Senate knocked $100 million off the dormitory loan program, it added an entirely new college program. This one proposes federal guaranty of up to $125 million in loans for construction, remodeling and equipping of college classrooms. The loans would be made by private firms.

The saving feature, from the White House point of view, may be that the heaviest budgetary impact can be delayed until future fiscal years. Excluding FHA's new mortgage insurance authority, the Senate version comes to about $2.8 billion. It tops Administration requests by more than $1 billion. But in fiscal 1960, beginning July 1, the excess would be only about $140 million.

In private housing, the Senate bill puts emphasis on building for middle-income groups by raising FHA mortgage limits on one- and two-family houses by $5,000 to $25,000. Existing payment requirements are unchanged.

There still is some chance for adjustment in either down-payment schedules, mortgage maturity—or both. A tentative approach by the House proposes both.

The Johnson-inspired cuts in loan authority may make the bill sweet enough for the President to swallow, but he still won't like the taste; he wanted no new loan authority for veterans or for colleges. And unless all signs are wrong, the President has been maneuvered into a situation where the only concessions he can wring out of the Democrats are relatively small ones.

Housing: How Ike and Senate Differ

1. Federal Housing Administration

President wanted . . .
Unlimited mortgage insurance authority with no time limit.

Senate bill provides . . .
$5 billion in new authority ending this July 1; after that, another $5 billion with no time limit.

2. Veterans' Housing

President wanted . . .
Veterans Administration to administer VA mortgage loan rate up to maximum of 6%, the same as FHA. No funds for direct VA home loans.

Senate bill provides . . .
Higher interest rate ceiling of 5¼% instead of current 4.75%. This matches FHA rate, but Congress keeps control over the rate.
$150 milllion for direct VA home loans in rural areas.

3. Urban Renewal

President wanted . . .
$1.35 billion in capital grant funds over six years.

Senate bill provides . . .
$2.1 billion in capital grant funds spread over six years, with amount to go to $500 million in any one year if necessary. Extra money would be subtracted from total urban renewal authorizations for future years.

4. Public Housing

President wanted . . .
No new authorization.

Senate bill provides . . .
35,000 units added to carryovers. Total now available: about 51,000 units.

5. College Housing

President wanted . . .
$200 million in new loan authority until this July 1; no new authority beyond that.

Senate bill provides . . .
An additional $300 million to federal loan program for college dormitory construction, and a new $125-million loan program for building or remodeling classrooms or for laboratory equipment. Total loan fund: $1.3 billion.

6. Federal National Mortgage Assn.

President wanted . . .
No new funds for par-buying of FHA and VA mortgages of $13,500 or less.

Senate bill provides . . .
No new funds.

Grants to Alaska: 'Too Little'

Statehood isn't all peaches and cream, Alaska is finding out.

President Eisenhower is proposing $27.5 million in special federal grants to help the new state through the transition from a territory. But behind the proposal lies this idea:

The federal government should not continue special programs in Alaska that in other states are the responsibility of state or local governments.

The bill and the thinking behind it will especially affect Alaska's highway program. As a territory, Alaska had been able to use federal funds for highway maintenance and repair. As a state, it can't. And while the bill would about triple Alaska's share of federal road money, it would also considerably increase the new state's matching obligation.

The Administration also wants to rid the federal government of responsibilities in long lines communications, construction and maintenance of airports and in fish and wildlife supervision.

Alaska's acting governor, Hugh J. Wade, says the bill is "too little, too soon." He warns that the proposed legislation will be fought by the state's Congressional delegation.

• **The bill**—the $27.5 million would go to Alaska over a five-year period; no more than $10.5 million in the fiscal year starting July 1, $6 million annually in the two years following and then $2.5 million in each of the last two years.

The Budget Bureau will soon come up with omnibus legislation incorporating the phase-out program and authorizing transfer of federal property now used in the operation and maintenance of airports and highways and for law enforcement. These physical properties will be turned over without cost to the state.

The bill will make Alaska eligible for participation in the federal highway program on an equal basis with other states. Taking the state's vast area into account, the apportionment for highway building should rise to about $37 million a year—about three times what Alaska now gets under special inclusion in the primary, secondary and urban (ABC) program.

• **Alaska's road problem**—A five-cents-per-gallon gasoline tax now nets Alaska about $2.2 million a year for its road program. But maintenance alone costs $5 million each year on the 5,000-mile system.

Last year Alaska spent $15 million on roads. Of that, $13.5 million came from federal funds.

Now, Alaska officials point out, maintenance alone will take twice the available funds. And the state would still have to find money for a road program big enough to match federal grants.

• **Other new responsibilities**—The Senate's Monroney bill on aid to airports takes cognizance of Alaska's special situation. It would grant the state $2.5 million per year for the next five years—that's considerably more than the new state would get if it were considered on the same basis as other states.

Meanwhile, the Interior Department is making plans to hand over fish and wildlife supervision within a year from the time Alaska presents suitable plans for administering these resources. And the long lines communications system, developed by the federal government during territorial days, is to be sold to private enterprise.

If the President's phase-out program goes through, here's how Alaska will spend its first $10.5-million grant.

• $4 million for road maintenance.

• $4.5 million for airport construction, including extension of Anchorage runways to accommodate jets, seal-coating runways at Anchorage and Fairbanks, and construction of water and sewage facilities at Fairbanks.

• $800,000 for a state mental health program.

• $438,000 for a general health program.

• $600,000 for operation and maintenance of 17 intermediate airports, excluding the big two at Anchorage and Fairbanks.

• $100,000 for maintenance and development of recreation camp sites.

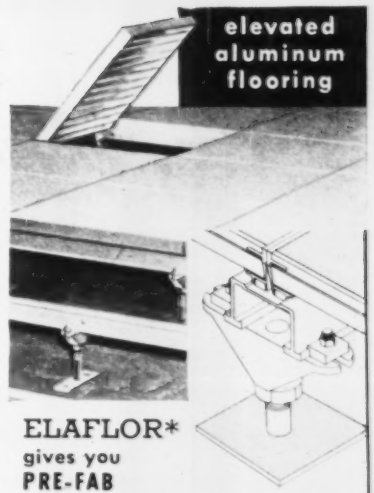
NYC Plans to Add 730,000 Housing Units by 1975

New York City is asking the cooperation of private capital and all levels of government in a $12.2-billion program to give the city 730,000 new housing units in the next 17 years.

Under the city's plan, private capital would supply $8.2 billion for new construction and rehabilitation work between now and 1975.

Public housing would account for $3 billion and the cost of land write-down and sales to private investors, another $1 billion.

The program also calls for rehabilitating another 110,000 units.



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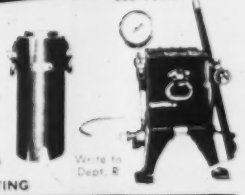

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New Effort to Stabilize Costs

New Jersey building contractors seek no-strike pledge and joint labor-management discussion of labor costs

The construction industry's concern over unnecessary labor costs is promoting novel contractor efforts in New Jersey.

Building contractors in all areas of the state are requesting the building trades unions to agree not to strike during the forthcoming collective bargaining negotiations, to arbitrate whatever wage disputes may arise and to help create a joint labor-management committee to study the general wage picture on a state-wide basis. In return, the contractors would give a "no-lockout" pledge.

The request was directed by the Building Contractors Association of New Jersey to the New Jersey State Building and Construction Trades Council, AFL-CIO, by Paul Brienza, managing director of the association.

The council turned down the request because, it said, it is beyond its "legal or moral powers" to trespass on the autonomous rights of its affiliated local unions or to set itself up as a labor dictator. Council President Sal Maso pointed out, however, that the council has always felt that unions and contractors are in "this cost problem together" and that the council officers have always stood ready to discuss problems of mutual concern in an atmosphere of "good faith, trust and confidence."

Meanwhile, the contractor association has sent bulletins to all New Jersey building contractors for posting on all job sites. The posters explain the contractors' program and urge all employers and workers to discuss it "with representatives of your negotiating committees and prevail upon them to fully consider this matter for the good of all concerned."

Mr. Brienza said last week that a number of local business agents seem receptive to the idea and that it looks as if this educational program may pay off, averting costly work stoppages this year. Mr. Maso was less optimistic. Forfeiture of the strike weapon and arbitration of basic rights, he warned, are "drastic" things.

The association feels the action it seeks will help both the construction industry and general economic conditions in the state in these ways:

- Encourage construction consumers to proceed with planned new construction and expansion programs without fear of costly delays.
- Prevent unnecessary increases in unemployment, which is already high.

In further support of the program —especially the joint study phase—Mr. Brienza says construction labor rates for some crafts "are the highest in the entire country." Ironworkers now get $4.55 plus 8% in fringe benefits, carpenters, $4.15 plus 7% in fringe benefits, and bricklayers, $4.40 plus 4% in fringe benefits, according to Mr. Brienza. With wages at this high peak, he said, "efforts must be made to stabilize wages in our state."

Contractor attempts to keep New Jersey building costs down last year ended in a number of long strikes.

"It would be a serious loss to the individual union member and his family, the contractors and the general public," the builders say, "to have a repetition of these work stoppages this year." They point out that a lot would be lost, never to be regained, as happened in the case of the recent newspaper and airlines strike.

AGC Asks Industrial Union Curb

Senate labor committee hears of contractor concern over loss of construction work to industrial unions

The deep concern of the Associated General Contractors of America over the performance of construction work by members of industrial unions was made forcefully known to the Senate Labor Subcommittee last week.

Testifying on labor legislation now before Congress (see p. 21), AGC Labor Committee Chairman Frank J. Rooney urged passage of legislation "to outlaw the restrictive provisions of certain labor agreements which prevent owners from doing their construction through the efficient and time-honored contract method."

This problem has repeatedly threatened to split the AFL-CIO apart. The building trades unions claim the old CIO industrial unions are trying to gobble up construction work that has traditionally belonged to the building trades. One device for promoting this trend is inserting a clause in industrial union labor contracts requiring owners to use production workers on in-plant construction work instead of calling in outside contractors.

An upshot of the feud may be some form of closer alliance within the AFL-CIO between the building trades and the metal trades, which are equally at odds with the industrial unions.

The problem has drawn some of the nation's leading national contractor associations and the building trades unions closer together. It was a significant factor in the formation last month of a top-level, labor-management committee to explore ways to meet and solve common problems (ENR Feb. 5, p. 86).

Mr. Rooney described the encroachment by industrial unions as "predatory" action and said the unions "are bent on raiding the work and rightful jurisdiction of building and construction craftsmen." The restrictive agreements, he said, are a "burden on commerce and a restraint of trade."

He said the construction industry would get some protection against this form of raiding if Congress solves the industry's representation election problem through certifications without elections instead of through the use of pre-hire labor contracts.

This protection would flow, he indicated, from the mere fact that the National Labor Relations Board would be able to clothe jurisdictional claims of the building trades with the force of law. As the Taft-Hartley Act now stands, one of the two legal justifications for a jurisdictional strike is an employer's failure to conform to an NLRB certification.

Elsewhere in his testimony, Mr. Rooney urged Congress to consider labor reform and Taft-Hartley amendments separately and to consider new legislation to outlaw vandalism and bombings of contractor's property and equipment.

Included in the AGC's general labor recommendations are tighter bans on secondary boycotts, the extension of antitrust laws to labor and a change in federal law to outlaw the union shop in every state.

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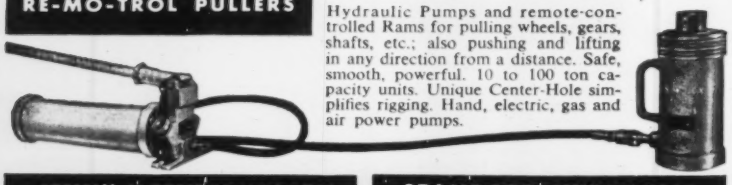

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Strike Boomerangs

Davis - Bacon, nonunion and UCW problems raised

A strike in Pennsylvania is producing a peculiar Davis-Bacon development that may be a timely warning to contractors in other areas.

The prolonged strike of AFL-CIO union iron workers in Erie is also producing some significant changes in local labor relations.

The struck employers report they have turned without difficulty to nonunion workers and to members of the United Mine Workers' District Fifty (United Construction Workers) to keep their work going.

The striking union has from time to time obtained short jobs from outside contractors at rates 25 cents higher than the Erie one. But it has been unsuccessful, employers say, in an attempt to get the U. S. Labor Department to increase the prevailing Davis-Bacon rate accordingly.

Iron Workers' Local 348 has been on strike against members of the Erie Construction Council (a general and specialty contractor association) since June 18, following the expiration of a two-year contract. Demands have included a 25-cent wage increase, a 15-cent pension plan, two coffee breaks a day, bigger travel allowances, larger work crews and other items. Employers estimate demands would raise labor costs $1.73 per hour per man.

The old and still existing rate is $3.64, plus 10 cents welfare and two cents for apprentice training. A spokesman for the employers council says the vast majority of ironworkers in the area are employed at this rate by national contractors working in the area under national agreements. Other ironworkers have reportedly obtained short jobs with outside contractors at the rate the union is seeking—$3.89.

An end to the seven-month strike is not in sight.

Contractors in the Erie Council have kept their iron work going by using nonunion men and workers represented by UCW. Other AFL-CIO building trades, which gave ironworkers' picket lines little support when the strike began, have worked alongside these men without any trouble, the council says.

Against this background, Local 348, according to the council, tried to get the federal prevailing wage for Davis-Bacon purposes boosted to $3.89. The employers intervened and stalled the move, pending further investigation by the Labor Department.

Montreal Workers Want More Pay, Shorter Hours

Unions negotiating for 50,000 Montreal building tradesmen are asking for an across-the-board hourly wage increase of 30 cents, a shorter workweek in the winter and a more liberal vacation plan.

The demands, submitted to the Montreal Builders' Exchange, are proposed as the basis of a new two-year contract.

The proposals represent the joint demands of unions affiliated with the Canadian Labor Congress and the Canadian and Catholic Congress of Labor, which negotiate for Montreal union construction workers other than plumbers, electricians, plasterers, marble and tile setters and asbestos workers, who negotiate separate contracts.

Current wages in the Montreal area range from $1.50 an hour for laborers to $2.50 for the skilled trades.

The unions are asking for a 35-hour workweek during winter months, instead of 40 hours, and for a week's vacation in the summer. Members now take their vacations in the off-season.

The unions are also asking the Builders' Exchange to explore the possibility of establishing a pension fund for construction workers.

Right-to-Work Movement Reports New Vitality

The November election defeat of right-to-work proposals in five out of six states may be an employer blessing in disguise.

The National Right to Work Committee, at least, seems to think so. The committee is dedicated to the principle that no one should be compelled to join a union.

It points to two positive results highly favorable to "the forces fighting compulsory unionism."

One is an increasing tendency on the part of the American people to view "the relentless political ambitions of the labor bosses" as a "major threat to the welfare of the nation." The other is an upturn in public support of the committee's work.

A surge in contributions since the last election, the committee reports, has enabled it to increase its staff and facilities. It is ready to go "full steam ahead" on both national and state levels.

Its immediate task, the committee says, is to forestall efforts of the "labor dominated Democratic majority in Congress" to repeal the federal labor law provision that authorizes right-to-work legislation.

OFFICIAL PROPOSALS

Bids: March 5, 1959

Power Authority of the State of New York

For Construction of Buildings, Roads and Utilities for Coles Creek Camping Area near Waddington, St. Lawrence County, New York
Specifications No. PA-5-11046
St. Lawrence Contract No. 52

NOTICE TO CONTRACTORS: The POWER AUTHORITY OF THE STATE OF NEW YORK will receive sealed proposals for Construction of Buildings, Roads and Utilities for Coles Creek Camping Area near Waddington, St. Lawrence County, New York, until 10:30 A.M., Eastern Standard Time, on the 5th day of March, 1959, at the Authority's office, 18th Floor, The Coliseum Tower, 10 Columbus Circle, New York 19, New York, at which time and place the proposals will be publicly opened and read aloud.

The estimated quantities of the principal items of work are as follows:

	Required Work	Optional Work
Residence, toilet, toilet and laundry, and control building	4 Buildings	
Foundation Course Gravel	1600 cu. yds.	
Top Course Gravel or Crushed Stone		700 cu. yds.
Bituminous Material		6800 gals.
Reinforced Concrete	80 cu. yds.	
Water and Sewerage Piping	1600 lin. ft.	
Furnish and install buried electrical cable various sizes	17,400 lin. ft.	16,000 lin. ft.
Overhead electrical distribution lines	1000 lin. ft.	

All work shall be completed on or before July 1, 1959.

Plans, Specifications and Proposal Forms for the work may be obtained from the Power Authority of the State of New York, 18th Floor, The Coliseum Tower, 10 Columbus Circle, New York 19, New York, upon application and prepayment of a fee of Ten Dollars ($10.00) per initial set of contract documents, and Five Dollars ($5.00) per set for additional sets, no part of which will be refunded. Plans, Specifications and Proposal Forms for the work will be on file in the Authority's office and in the offices of the Engineer, Uhl, Hall & Rich, 230 Congress Street, Boston 10, Massachusetts, and may be inspected by prospective bidders during office hours.

Bids must be made and returned in duplicate in accordance with instruction contained in the Information for Bidders. Guarantee will be required with each bid in an amount not less than 20 percent of the total of the gross sum bid.

The right is reserved to make award on Schedule No. 1 alone or on Schedule No. 1 plus any one or any combination of two or of three of the Optional Work Schedules or on Schedules No. 1 plus all four of the Optional Work Schedules and to reject any or all bids, as fully described in the Information for Bidders.

W. S. Chapin
General Manager

Bids: February 24, 1959

Stream Control Works Contract 460

SEALED BIDS will be received by the Board of Water Supply, at its offices, thirteenth floor, 120 Wall Street, New York City, until 11:00 A.M., Eastern Standard Time on Tuesday, February 24, 1959, for Contract 460, for the construction of the stream control works and portions of the release water structures for the proposed Cannonsville dam. The stream control works will consist of an inlet structure; a diversion conduit, about 1280 feet long and 17 feet 6 inches in diameter, with a transition at each end; and a stilling pool. The portions of the release water structures to be constructed under this contract will consist of a portion of the emergency gate tower, the release water conduit and the substructure for the release water chamber. The release water conduit, about 590 feet long, will be a 12-foot diameter steel pipe, lined with cement mortar, encased in concrete and constructed on top of the diversion conduit. All work shall be as set forth in the specifications.

No bid will be received and deposited unless accompanied by a certified check upon a National or State bank, drawn and made payable to the order of the Comptroller of The City of New York, in the amount of one hundred thousand dollars ($100,000.00), for the proper execution of the Contract.

Pamphlets containing information for bidders, forms of bid and contract, specifications, contract drawings, requirements as to surety, etc., can be obtained in the Secretary's office, Room 1312, at the above address, upon application in person or by mail, by depositing the sum of $5.00 for each pamphlet. Within 30 days following the award of contract or rejection of bids the full amount of such deposit will be refunded for each pamphlet submitted as a bid and a refund of $4.00 will be made for each other pamphlet returned in acceptable condition. Arrangements will be made whereby prospective bidders desiring blueprints of the contract drawings for their own use may secure same, the cost thereof to be paid by them. For further particulars apply at the office of the Chief Engineer at the above address.

ARTHUR C. FORD, President, EDWARD C. MAGUIRE, HERBERT M. ROSENBERG, Commissioners; Board of Water Supply; BETTY COHEN, Acting Secretary.

U. S. Government

General Services Administration, Public Buildings Service, Washington, D. C., January 30, 1959—Sealed bids for construction (except elevator plant) of Federal Office Building No. 6, Fourth & C Streets, S. W., Washington, D. C., will be received until 2:00 PM EST March 13, 1959 in Rm. 5332 General Services Bldg., 19th & F Sts., N. W., Washington 25, D. C., and then publicly opened in Rm. 1011—1017 GSA Auditorium at the above address. Upon request, Public Buildings Service, Rm. 1304, GSA Bldg., address as above, Phone EXecutive 3-4900, Ext. 2397, will furnish three sets of bidding material to General Contractors interested in bidding the complete project. Two additional sets may be obtained by depositing a certified check for $150.00 per set. Deposits will be refunded for such sets if returned in good condition within fifteen days after bids are opened. Checks or money orders for deposits or furnished as bid guaranty must be made payable to the General Services Administration. One set of drawings and specifications will be furnished to builders' exchanges, chambers of commerce and other similar organizations, with the understanding that the set will be retained on their premises and made available for inspection by any interested subcontractor or material firm. The issuing office will supply subcontractors for the following items with one set of plans and specifications upon receipt of certified check for $150.00, on the same terms as stated for extra sets for General Contractors: Stone Work, Windows, Builders' Hardware, Plastering and Drywall Partitions, Movable Steel Partitions, Airconditioning, Heating, Plumbing, Electrical Work. Commissioner of Public Buildings, General Services Administration.

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-7154) will be received at Loveland, Colorado, until 10 a.m., Mountain Standard Time, March 5, 1959, for furnishing labor and materials for reconductoring the Flatiron-Greeley 115-Kilovolt Transmission Line, Transmission Division, Colorado-South Platte-Lower Platte System, Missouri River Basin Project. Location, Weld and Larimer Counties, Colorado. Principal items are 79 structures—Raising crossarms on structures; 107 bands—Replacing Type A four-way band with Type B four-way band; 62 X-braces—Furnishing, assembling, and attaching X-braces with 12-foot pole spacing; 29.34 miles of line—Furnishing and stringing three 795,000 circular-mil ACSR conductors; 250 dampers—furnishing and attaching vibration dampers to 795,000 circular-mil ACSR conductor; and other work. Completion time 150 days. For particulars, address Bureau of Reclamation, Building 46, Denver Federal Center, Denver 25, Colorado; P. O. Box 119, Loveland, Colorado; or Building 53, Denver Federal Center, Denver 25, Colorado. W. A. Dexheimer, Commissioner.

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CLOSING DATE: Friday 10:30 A.M. for issue dated the following Thursday.

SEND COPY TO: Official Proposal Division, Engineering News-Record Class. Adv. Div., P. O. Box 12, N. Y. 36, N. Y.

Bids: February 19, 1959.

New York State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of the Highway Law, and special provisions for projects financed with Federal Aid Funds, sealed proposals will be received until ten-thirty o'clock A. M., eastern standard time on the 19th day of February 1959, by Henry A. Cohen, Director, Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects:

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
DISTRICT No. 1, G. L. NICKERSON, District Engineer, 333 Broadway, Albany 1, New York						
Schenectady	FASS 59-1	Princetown Church Road, Pt. 2 and Dare Road, Pt. 1 Proj. S-333(2)	3.86	Bit. Double Surf. Treat. = 3.84 Mi; Misc. Work = 0.02 Mi.	$22,000 Plans $5	$100,000
Warren (Rte. 9L)	RC 59-7	Glens Falls-East Lake George, Pt. 1, SH 1666	....	Roadside Development	$800 Plans $5	14,000
Washington (Rte. 22)	FARC 59-6	White Creek-County Line, SH 721, Shunpike, SH 97 Proj. F-570(7)	4.53	Asphalt Concrete, Widen Exist. 21' Conc. Slab Bridge; Widen Exist. 3 Sp.-81' Bridge with Pre-Cast Beams	$45,000 Plans $5	781,000
DISTRICT No. 2, LACY KETCHUM, District Engineer, 109 No. Genesee Street, Utica 1, New York						
Herkimer	FASS 59-3	Stone Road, Co. Rd. 141 Proj. S-535(4)	2.72	Bit. Double Surf. Treat. Pavt.	$19,000 Plans $5	343,000
Madison	FASS 59-4P	Stockbridge Falls-Merrillsville, Pt. 1 and Pt. 2 (Co. Rd.) Proj. S-360(3)	7.61	Bit. Double Surf. Treat. Pavt.	$13,000 Plans $5	240,000
DISTRICT No. 4, B. F. PERRY, District Engineer, Barge Canal Terminal, Rochester 1, New York						
Monroe	FAC 59-1	Rochester City: Inner Loop (Water St. to Scio St.) Proj. U-1089(10)	1.06	Drainage Tunnel in Rock	$87,000 Plans $5	487,000
Orleans	FASS 59-2	West Lee Street Road, Co. Rd. 94; East Lee Street Road, Co. Rd. 30A and 36 Proj. S-242(3)	3.77	Double Srf. Treat. Bit. Mac. = 3.69 M Misc. Work = 0.08 Mi.	$13,000 Plans $5	232,000
DISTRICT No. 6, JAMES H. THOMAS, District Engineer, State Office Bldg., 30 West Main Street, Hornell, New York						
Chemung	FASS 59-5	Big Flats-South Corning Co. Rd. 10 Proj. S-525(4)	0.42	Bit. Double Surf. Treat. Pavt. = 0.31 Mi; Asphalt Conc. Ty. 2B = 0.11 Mi; Comp. Weld. Plate Girder Br. 5 Sp. 117.5' Each.	$28,000 Plans $5	514,000
Steuben (Rte. 15)	FARC 59-9	Bath-Avoca, SH 5291; Bath Village, SH 5350 Proj. U-225(13)	1.60	Asphalt Concrete Pavement	$57,000 Plans $5	1,035,000
DISTRICT No. 8, KURT G. RAUER, District Engineer, Pleasant Valley Road, Poughkeepsie, New York						
Orange (Rte. 17)	FARC 59-8	Tuxedo-Harriman, Pt. 1, SH 8258. Proj. F-405(9)	2.85	Asphalt Concrete Pavement	$18,000 Plans $5	335,000
Orange and Sullivan (Rte. 17)	FATS 59-1	SH 53-15; SH 54-9; SH 53-7, SH 1329; SH 41-3; SH 47-11, SH 5210 and SH 5510 Proj. F-1050(9), F-495(13)	27.98	Furnishing and Erecting Traffic Signs and Delineators	$11,000 Plans $5	204,000
DISTRICT No. 9, JOSEPH C. FREDERICK, District Engineer, 71 Frederick Street, Binghamton, New York						
Broome (Rte. 17)	RC 59-5	Windsor-Deposit, SH 5338 (Br. No. 2)		Cleaning and Painting Thru Truss Bridge	$1,000 Plans $5	19,000
DISTRICT No. 10, M. E. GOLT, District Engineer, 325 W. Main Street, Babylon, L. I., New York						
Queens, (Int. Tour. Rte. 495)	FICE 59-1	Interstate Route Connection No. 513, Clearview Expressway, (58th Ave. to 35th Ave.) Cont. No. 2 Proj. I-4112(10)	1.52 (4.90 Acc.)	9" Cem. Conc. Pavt. 2 @ 36' Wide = 4.32 Mi. Misc. Work = 0.20 Mi. Acc. = 3.91 Mi. Asp. Conc. and 0.99 Mi. Cem. Conc. Pavt.) 4 Hy. Sepa. Comp. Wf Beams 2 Sp.-113.6', 2 Sp.-114.1', 2 Sp.-115.8' and 4 Sp.-199'. 1 RR Sep. Weld Wf Thru Girder 4 Sp.-210.2', 2 Ped. Overpass Wf Beams 5 Sp.-331.2' and 4 Sp.-217.4'	$600,000 Plans $10	10,780,000

Any projects in this letting that are on the Federal Aid highway systems are subject to the provisions of the "Federal-Aid Highway Act of 1956", being Public Law 627, 84th Congress, approved June 29, 1956, and are also subject to the applicable New York State statutes.

In compliance with the provisions of Section 115 (Prevailing Rate of Wage), Public Law 627, the minimum wages to be paid laborers and mechanics are included in wage schedules that are set out in the bid proposal.

Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts, Albany, N. Y., and at the office of the District Engineers noted above, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for Plans and Proposal Forms for each contract is indicated above. A refund will be made in full to bidders for return of one set, in good condition, within 30 days of award, or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

Special attention of bidders is called to "Information for Bidders" in the Public Works Specifications, and to the special provisions applying to projects financed with federal funds. Award of a contract is subject to priorities and allocations under the Defense Production Act of 1950, as Amended, and all regulations issued thereunder.

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by draft or certified check payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bond shall conform to the provisions of the Highway Laws, as set forth in "Information for Bidders".

The right is reserved to reject any or all bids.

J. BURCH McMORRAN
SUPT. OF PUBLIC WORKS

Bids: March 2, 1959

Notice of Letting
New Castle County, Delaware

SEALED PROPOSAL, addressed to the President of the Levy Court of New Castle County for the construction of a relief sewer from Shellpot Creek Pumping Station in the northerly direction to the Wilmington-Philadelphia Turnpike (Route 13), Brandywine Hundred, Contract 1959-2, will be received from qualified bidders by the County Engineer, in Room 202 of the New Castle County Engineering Building, on the Kirkwood Highway, until 2:00 p.m. E.S.T., Monday, March 2, 1959. All bids will be opened and read in the Hearing Room of the New Castle County Engineering Building on said day.

The work embraces the construction of a 42-inch relief sewer, with an alternate bid for a 36-inch relief sewer. The total length of sewer involved is approximately 4500 linear feet. There is a grant of funds from the Public Health Service in connection with the project, Grant Contract No. 1958-6.

Each bid shall be accompanied by a certified check or surety bond in the amount of ten percent (10%) of the total bid.

Plans and specifications may be obtained at the New Castle County Engineering Building on the Kirkwood Highway, Room 103 or Whitman, Requardt and Associates, 1304 St. Paul Street, Baltimore 2, Maryland, on and after February 6, 1959, upon payment of the sum of $5.00 which will not be refunded.

The Levy Court reserves the right to reject any and all bids received, and to waive any informalities in the bids received.

JOHN TAYLOR,
County Engineer

Read the Official Proposal Columns of

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This Week and Every Week

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CHICAGO 11: 520 N. Michigan Ave.
SAN FRANCISCO 4: 68 Post St.

• POSITIONS VACANT

Wanted: Chief Estimator. Judicious Buyer. Graduate Civil Engineer. Proven Ability. Willing to assume responsibility. Salary and participation. Send Complete resume, salary expected, Executive Offices, Delaware Valley. P-9617, Engineering News-Record.

Civil Engineer Wanted By Western Illinois County, for survey, design, and construction of county highways. Under graduates with experience considered. Permanent with automatic advancement, paid vacation, sick leave, holidays, excellent retirement. State education, background, experience and salary desired. P-9742, Engineering News-Record.

Experienced Estimator for firm engaged in general construction of commercial and industrial buildings. Pleasant Central Pennsylvania city. Permanent position, salary commensurate with experience and ability; good opportunity for right man. Send complete resume to P-9779, Engineering News-Record.

Chief Tunnel Inspector—Minimum of 10 years experience on large tunnel projects. Must assume full responsibility for the inspection of a large tunnel drain project. Send complete resume to Daniel W. Barry, Oakland County Drain Commissioner, 550 S. Telegraph Road, Pontiac, Michigan.

Construction Estimator-Analyst And Appraiser to manage professional surveying office in Chicago. Full knowledge of this business essential. Under age 35. P-9881, Engineering News-Record.

Experienced Structural Steel Detailers for Small Steel Fabricator in Middle Georgia Area. Member Company AISC. Send Resume of Experience. P-9877, Eng. News-Record.

Have opening for several recent Civil Engineer. Graduates with military obligations completed who desire to learn the construction business. Ambitious, aggressive, dependable, use no intoxicants, willing to start in the field on industrial buildings and heavy construction, and willing to move. Must be single. We operate throughout Kansas and adjacent states; offer excellent opportunity for advancement. Top wages. Martin K. Eby Construction Co., Inc., P. O. Box 1679, Wichita, Kansas.

Construction Superintendent seeks employment with construction firm in N. Y. metro. area. College grad. 13 years diversified const. exp. with leading firms. Capable of handling any size job. P-9941, Engineering News-Record.

Sanitary And Civil Engineers with several years experience in the field of water and sewage works and industrial wastes. Excellent opportunity with growing firm. Salary commensurate with ability. Paid vacations, holidays, hospitalization. Address reply with resume to: O'Brien & Gere, Consulting Engineers, 100 East Genesee Street, Syracuse 2, New York.

Wanted—Estimator Engineer. General construction. Degree helpful—not essential. Accuracy a must. No clock watcher. Paid vacation. Salary—$5,500.00 - $7,500.00 a year. Central—South. Send Resume. P-9898, Engineering News-Record.

Construction Superintendent for Water and Sewage Plant Construction. State Experience, Age and Marital Status. Arizona Contractor. P-9889, Engineering News-Record.

• POSITIONS VACANT

Wanted M.S. structural engineer to take responsibility for design of variable indeterminate structures. Permanent position in a well established firm. Excellent living conditions. Future association for properly qualified person. Location: North Carolina. P-9850, Engineering News-Record.

Resident Engineer—thoroughly experienced —for inspection and supervision of construction of large sewage treatment plant and intercepting sewers. Location New York State. Salary open. Address reply with resume to: O'Brien & Gere, Consulting Engineers, 100 East Genesee Street, Syracuse 2, New York.

Sales Engineers. 2 men for permanent positions in fast-growing phase of heavy construction. Familiar with excavation methods and equipment. Civil engineering background desirable but not necessary. Must be willing to travel in Southeastern U. S. Excellent future. P-9899, Engineering News-Record.

Sales Manager for earthmoving and construction equipment distributor. Midwestern state. Two offices and shops, twelve salesmen. Wanted experienced man to be responsible for all phases of new and used equipment sales, sales training programs, advertising and promotion. All replies held in confidence. Reply in detail to P-9895, Engineering News-Record.

Executive salesman to head selling division of Architect-Engineer-Construction firm in Southwest. Reply to P-9904, Engineering News-Record.

• POSITIONS WANTED

Executive, until recently General Manager for successful New York General Contractor, solicits inquiries from Contractors requiring top man with thorough experience, qualified to assume full responsibility. Minimum $20,000. PW-9761, Engineering News-Record.

Safety Director. 18 years experience in all types construction. Interested in permanent position. Free to relocate on reasonable notice. PW-9800, Engineering News-Record.

Foreign Position Wanted. Executive and supervisory construction experience United States and South America. Mass housing, roads, utilities, general construction, production of lumber, concrete blocks, clay products and aggregate. Excellent record as cost conscious producer and ability to deal with all classes of people. PW-9812, Engineering News-Record.

Office Manager-Accountant Main or Field office domestic or foreign. Heavy Const. taxes, payroll cost, timekeeping, Purchasing Insurance Personnel. PW-9769, Engineering News-Record.

Electrical Construction Superintendent. 46. 28 yrs. experience. 5 yrs. field engineer and design. Heavy, industrial, power house, and substation. Complete job, material take-off, expediting, negotiations to final sale. PW-9806, Engineering News-Record.

Project Manager Foreign Heavy Construction. Graduate Professional Engineer with extensive experience Latin America, available for long or short assignment or consultation. PW-9749, Engineering News-Record.

Construction supervisor now in Japan desires contact to continue overseas employment. Any area. Long experience in steam generating, petroleum refining, chemical and other heavy industrial construction. Particularly capable in piping, instrumentation, electrical. Experienced overseas employment. Excellent references. PW-9880, Engineering News-Record.

• POSITIONS WANTED

General Supt. 40 years old. 18 yrs. as supt. last 8 yrs. as general supt. heavy, highway and airport construction. Qualified references. Available March 1st. PW-9709, Engineering News-Record.

Architectural Eng., 29. B.S.A.E., Professional Eng. 2 yrs. diversified exp. 1 yrs. exp. in architectural and structural design of industrial buildings. One yr. responsible charge of work. Salary and location open. PW-9887, Engineering News-Record.

Shovel, Dragline and Crane Operator; 24 Years Exp. in all phases of Highway Construction, and other Earthmoving projects. Can repair and rebuild any make machine. Desire position as supervisor or will operate. PW-9873, Engineering News-Record.

Construction Supt.—10 yrs. experience Concrete paving. Toll and state highways PW-9875, Engineering News-Record.

Sanitary Engineer—24—Single—MS in Sanitary Engineering—Two years experience with consulting firms Will consider all offers especially overseas—Available about April 1, 1959. PW-9881, Engineering News-Record.

Construction Manager—BSCE—Proven organization and production abilities. Wide experience in heavy construction. Qualified to assume full responsibility. Location, Northern California. Minimum $16,000. PW-9826, Engineering News-Record, 68 Post St., San Francisco 4, Calif.

Construction Superintendent or director qualified, 25 yrs. experience. G.M.C. Lucas, 2225 Wisteria, Sarasota, Florida. Ph. RI 7-9843.

Millwright Superintendent: Fast, Capable And Sober. PW-9700, Engineering News-Record.

Constr. Engr. 33 BSCE—7 yrs. exp. in General Const. as: Field Engr., Supt., Estimator and Project Admin. Locate anywhere. PW-9636, Engineering News-Record.

Estimator. 39. registered. graduate. 15 years experience all phases of general contracting. Estimate and purchase well, all types of heavy industrial, commercial, and public work projects. Dependable, loyal, affable, intelligent, available on short notice, prefer northern Ohio area but will relocate. PW-9830, Engineering News-Record.

Contractor's Engineer — C.E.; Highways, Bridges, Asphalt Construction Experience, Job Estimator, Co-ordinator, Project Management. State job, location, salary. PW-9912, Engineering News-Record.

Heavy and Highway Construction Superintendent. Engineering Estimating Experience Available soon. PW-9913, Engineering News-Record.

Structural Engineer. 29. B.S.C.E., 4 years experience, principally bridge design. PW-9901, Engineering News-Record.

Resident Engineer—Architect's Superintendant. Varied Industrial and some Commercial experience. Registered Civil Engineer. Desires permanent position in Mid-West area. Available in February. PW-9894, Engineering News-Record.

BSCE. Young. Single. 3 1/2 years Civil-Sanitary Experience desires position in sanitary work. Field or Office. PW-9893, Engineering News-Record.

Building Constructor with Argentine degree, general construction and sewer work, good draftsman, speaking knowledge of English. Mr. Raul 416 W. 94 St., Ap. 13F. Phone MO 3-3106—N.Y.C.

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Graduation from a four year college or university with major course work in mechanical engineering—possession of a license as a mechanical engineer as issued by the State of Connecticut or any other state in which the standards for registration are not lower than those of Connecticut. Salary $6136-$7436 per annum.

Complete details by writing to
Director of Personnel,
Municipal Building, Hartford, Conn.

Construction Engineer to supervise contracts and **Resident Engineers.** Must be experienced in sewer, water and plant work; registered or eligible for registration in Ohio.

Designers and **Draftsmen** experienced in sewer and water layout and treatment plants.

By firm of Consulting Engineers in Ohio.

P-9811 Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

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With Mechanical Experience

General Contractor will add to expanding organization man qualified for large projects run independently of main office. Should be thoroughly experienced in both general contracting field supervision and complex mechanical work. Should have had some mechanical design experience, preferably with engineering degree to work closely with Company Engineers. Work principally in the supervision of subcontracts, coordination of work and liaison with Owners' representatives. Work in Western section of U. S. Give full resume in reply with salary requirements and photograph.

P-9918, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

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Major Foreign Operating Oil Company offers career opportunity for graduate mechanical engineer. Initial assignment in our New York Office.

To conduct equipment evaluation, technical service on mechanical equipment used in oil refineries and cross country pipelines, pressure vessel designing, etc.

Salary commensurate with experience. Write outlining personal history and work experience—please include telephone number to:

P-9743, Engineering News-Record
Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

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P-9812 Engineering News-Record
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To supervise construction of 122 kilometer highway in Iraq. Fifteen years experience required. Excellent salary plus furnished house free for self and family. Approximately two to two and one half years term. Please send complete resume and specify salary required.

HARZA ENGINEERING COMPANY
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Graduation from a four year college or university with major course work in structural engineering plus 3 years experience. Salary $6136-$7436 per annum.

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Expanding construction firm interested in employing an estimator with experience and background in diversified estimating. Will qualify him for immediate position as Assistant to Chief Estimator. Civil Engineer graduate preferred. Our company provides many benefits for the right person.

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EQUIPMENT WANTED or FOR SALE ADVERTISEMENTS acceptable only in Displayed Style.

UNDISPLAYED RATES

$2.40 a line, min. 3 lines. To figure advance payment count 5 average words as a line.

BOX NUMBERS count as one additional line in undisplayed ads.

DISCOUNT OF 10% if full payment is made in advance for four consecutive insertions of undisplayed ads.

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400 to 600 bbl. CEMENT BATCHER

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Phone 562 Phone 329

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W-9845, Engineering News-Record Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

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James B. Clow & Sons 78-79
Columbia-Southern Chemical Corp. 54
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Continental Motors Corp. 6

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Richard Dudgeon, Inc. 87

Eimco Corporation ..... 3rd Cov.
Elgood Equipment Corp. 99

Ford Motor Co., Truck Div. 72-73

Gahigan Dredging Corp. 74
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Griffin Wellpoint Corp. 74
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Liskey Aluminum, Inc. 87
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McGraw-Hill Book Co. 62, 83

Nassau Trailer & Motor Sales 99

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Templeton Kenly, & Company 90
E. A. Thompson, Inc. 56

Truck Mixer Mfgrs. Bureau 7

Westinghouse Electric Corp. Apparatus 60-61

Professional Services **98**

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F. J. Eberle, Business Mgr.

Employment Opportunities 93, 94
Notices
Proposals 90-92
Equipment
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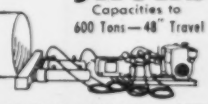

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No Time to Falter

THE OPEN-TO-TRAFFIC MILEAGE for the Interstate Highway System may seem small to some persons who saw the status report given to Congress last week. But examination of the situation will reveal that the large sums of money—and the time and talent—that have gone into such necessities as planning, design, survey and acquisition of right-of-way have furnished a remarkable degree of progress. Actual completed construction is not the best measure of progress right now.

This is to be expected. Now the time is near when the miles of completed road are expected to start rolling out. It would therefore be unfortunate—to say the least—if the program should falter at this time by being cut down or stretched out.

Not only would the whole concept of the 41,000-mile program suffer, but a good deal of the high cost and hard work that the accelerated beginning must surely have entailed will have been in vain.

This big investment in a fast start is one more point Congress might keep in mind as it looks over the figures and looks into ways to finance the remainder of the program.

Compromise Is the Key

THE FREEWAY HASSLE in San Francisco (p. 28) dramatically emphasizes two major problems in superhighway construction. One is that local governments feel they do not have enough say on route selection of state and federal highways in their area. The other is that there is too little coordination of highway and mass transit needs. If the troubles engendered by these problems are to be avoided and more rapid solutions opened up, more compromise by all parties concerned is going to be required.

The route selection matter has arisen in many localities across the nation as a result of the Interstate program. Obviously, state and federal highway engineers must give thoughtful consideration to the particular needs of local areas in planning routes. And in some instances cities and counties are justified in holding out for specific features that would better serve their communities. But wholesale rejection of plans, as in San Francisco, is ostrichlike. Leeway must be left for compromise.

The need for coordination of rapid transit and highway developments is a further complicating factor in San Francisco and a number of other cities. It appears that rapid transit construction is facing an uphill fight, particularly in California where the auto age has brought meteoric growth but has spread population thinly over the landscape making it hard to develop an efficient, economical system. Moreover, with highway needs so great in San Francisco and in all other parts of California, there is little likelihood that auto users will ever permit diversion of gas tax monies to underwrite costs of other types of transport. So if the city's Board of Supervisors is counting on rapid transit making up for the freeways it opposes, it must find some other source of subsidy than the gas tax. It would have been much better had room been left for compromise.

The San Francisco situation dramatizes troubles common to every community beset with traffic congestion. Federal and state highway officials should be more sympathetic to municipal needs and suggestions. But city officials should be realistic and, above all, well informed when stating their needs. And the necessity for compromise must be recognized on both sides. Progress in improving urban traffic will otherwise be impossible.

Help When Needed

PROGRESS IN CONSTRUCTION is a product of many things, and one that goes largely unsung is the part played by an efficient construction equipment distributor. Too often he is thought of merely as a salesman seeking to separate a contractor from his pocketbook.

This narrow view, however, is not held by thousands of contractors whose jobs have been advanced, sometimes saved, by the quick supply of a new part or the repair of a broken one. Nor is it held by those contractors lucky enough to be served by equipment dealers who know construction and how to plan a job with the most suitable machines—either new or used—for maximum efficiency and economy.

In point of fact, most distributors accept this dual role of being an equipment consultant and a ready source of emergency supplies and repairs with great seriousness. Most work conscientiously at perfecting their abilities to discharge these duties. The annual meeting of the Associated Equipment Distributors always shows clearly this high dedication of the distributors to their jobs.

A thoroughly serious affair, the AED convention focuses on ways to increase distributors' profits, to be sure, but the methods are those of better business management, which prominently includes better service to the customer. Faster supply of spare parts; faster rebuilding of worn parts or of broken down machines; fair and realistic appraisals of trade-in equipment; better, more uniform warranties of both new and used equipment—all these are facets of better management and better service.

The equipment distributor is a vital link in the construction chain. He is also a link very close to the contractor's firing line. It is important for him to be financially strong and technically efficient; it is important for the construction industry that he achieve both of these goals. Otherwise he will not be able to render help when it is needed.

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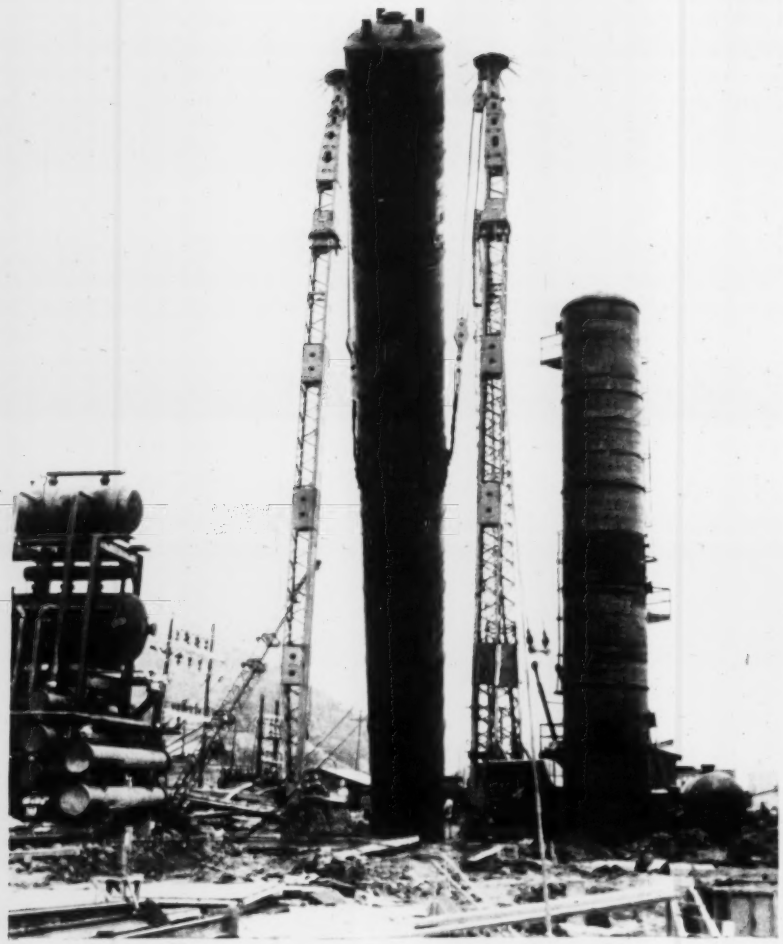

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